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### Modern Apparatus vs. Existing Conditions.

BY W. J. BUCKLEY.  
(Continued from February.)

In buying apparatus the speed and weight should also govern in nearly the same degree the price of the largest size you can use. The pressure which reaches 6,500 volts in a 125-light arc dynamo seems to be carried on the ordinary arc circuit as easily as 3,000 volts. Of course, 6,000 volts will jump nearly twice as far, and theoretically would require twice the insulation to hold, but experience has shown that if an overhead arc line is built to protect a pressure of 3,000 volts, it will carry 6,000 volts with safety. No reliance whatever is placed upon the insulation of the ordinary No. 6 overhead arc line, which should be erected as if the wire was bare, as almost all such lines five years after erection are bare so far as insulating qualities are concerned. The weak spots requiring increased insulation are the wires from the pole to the lamp or entering stores. Beginning then at the pole, these wires should be a high-grade rubber insulation. The regular weather-proof line wire will give a constant trouble even when protected with porcelain or hard rubber bushings or flexible tubing. It is not necessary to use rubber insulation throughout your overhead arc line, even with 150-light arc machines.

When the purchaser comes to buy alternating apparatus he is confronted with single-phase, quarter-phase, two-phase, three-phase, multiphase and monocyclic—surely enough to feaze him to start with.

But what system will fit his conditions? Which machine should he buy?

With the use of an efficient motor the single-phase is the ideal alternating current system. No condensers, no balancing of the load, no fixed arbitrary line loss, but two wires on the line, all giving a flexibility that affords a minimum cost in power, arc and incandescent services from the same machine and circuit.

All the catalogues of multiphase apparatus contain statements, variously expressed, that a single-phase synchronous motor is the most desirable but unattainable type. This is no longer true as to its unattainability. Single-phase motors are now sold on the market, having as high a commercial efficiency as is obtained in any but the large types. They are self-starting at full load with maximum torque. They require no special circuits or connections, no starting rheostat, no condenser and no special transformer, the ordinary lighting transformer answering the purpose. Being in step with the generator, the regulation of the synchronous motor is perfect under all loads, and the motor will pull out of step and stop running if more than a 50 per cent overload is applied.

What is a single-phase dynamo? It is a machine wherein the number of coils in the armature equal the number of pole pieces in the field. The armature coils have the same "pitch" as the pole pieces. The "pitch" is the distance from the

center of one field pole to the center of the next. The coils are connected so that the armature contains but one circuit or ring of coils.

The two-phase dynamo means that there are twice the number of coils in the armature that there are poles in the field, having half the pitch of the pole pieces. The armature is split in two, and instead of every coil being connected on one circuit, every other coil is connected together, so that the armature presents two independent circuits or rings of coils. It is practically two armatures in one field, each having its separate circuit for service.

Lamps may be tapped from either circuit, and one-half the armature may be cut out and the other half run on a single phase, but all four wires comprise the power circuit and must be connected to each motor. This means four wires throughout on your poles. Both circuits may be tapped indiscriminately for light and power, but in doing so they require the same hand regulation at the station to constantly balance the load that is usually given the three-wire direct current system. Two legs of the circuit may be one wire of a nearly equal cross-section, so that the three wires require practically as much copper as the four.

In the three-phase dynamo the armature coils are three times the number of poles and represents three separate circuits or rings of armature coils having one-third the "pitch" of the pole pieces. The number of phases by reducing the line induction especially fit the three-phase system for the transmission of very large powers over very long distances, and the current may be delivered on not less than three and as many as six wires, depending on the fluctuations and proportioning of the load in the different services.

Monocyclic is different only in the method of connecting and proportioning the armature coils and is to all intents and purposes an unbalanced three-phase machine, unless we assume that the placing of the teaser coil in the middle of the main coil of the armature does not split these coils in two, in which case it becomes an unbalanced two-phase machine; as the teaser coil, while having wire of the same cross-section, is but one-fourth the size of the main coil. The armature coils equal the number of pole pieces and are of the same pitch as the teaser coils, being wound in the opposite direction, are connected one end to the middle of the main coil circuit, the other end to the third collector ring, making a three-wire circuit, this arrangement being slightly modified to include a commutator for compounding the field to compensate for line loss.

When the dynamo is intended for lighting service only, the third wire may be dispensed with and the machine run as an ordinary single-phase machine, but with a consequent reduction in efficiency caused by the idle teaser coils.

When the dynamo is intended for power only, the three-line wires must be of the same cross-section and all three wires must be in service.

When power and light are both run, the so-called teaser line wire only can be reduced in proportion

to the power service, although the full cross-section of wire is usually advocated.

A quarter-phase dynamo is a two-phase machine with the coils set one-fourth or 90 degrees ahead of each other.

You are all familiar with the difference of cost in erecting and maintaining two or more circuits instead of one, or three wires instead of two; but some buyers neglect the consideration of this expense until their multiphase apparatus is purchased, when it confronts them with the nasty familiarity of the unexpected expenditure so usual in disbursing our wonderfully over-estimated receipts.

Again at least one two-phase system advocates limiting the loss on line copper to 2 per cent; the alternative of having a greater line loss with a small expenditure of cash for copper is a reduction in the efficiency of the service and usually the use of condensers. It is Hobson's choice as to the amount of money required, though you might get time on apparatus, while copper is cash.

The phase affects the units in which your power is distributed. Impedance, lag and idle currents develop as the size of the self-exciting motors increase, practically limiting the distribution of power on a single-phase circuit to motors not exceeding in size 100 horse-power.

The single-phase generator may be a 1,000-horse-power machine, but any one of the motors must not be larger than 100-horse-power unless independently excited and started.

So far as the phases are concerned, the only conditions under which a multiphase system is more applicable than a single-phase is in the transmission of very large amounts of power over great distances, and where the power is distributed in several units.

After the phases the important consideration is the number of alternations or the frequency.

The market apparatus of various makes gives 16,800, 15,000 and 7,200 alternations or the product of the number of poles multiplied by the speed per minute.

An alternation is the traveling of a current through the circuit in one direction; and when it has completed its journey in the opposite direction it has made a complete period or cycle. Two alternations make a cycle; hence 16,800 alternations per minute is 8,400 cycles per minute, or 140 cycles per second; 15,000 alternations per minute, 125 cycles per second; and 7,200 alternations per minute, 60 cycles per second.

Why do different manufacturers make machines and transformers with different phases and alternations? First, the opinion is offered that it is to have something new, implying an improvement to talk up and advertise; something different to that which the other fellow sells. Secondly, because low frequency machines are cheaper to build. Thirdly, because different frequencies affect in different degrees the power, incandescent and arc services.

Generally speaking the higher the frequency the better the lighting service. The frequency of 3,600 alternations per minute or 30 cycles per second,

is suitable for power only and will not commercially operate an arc or incandescent service at all because the low period current waves produce an undulating and decidedly fluctuating light.

Power is practically limited between 20 and 150 cycles per second or 2,400 and 18,000 alternations per minute, because lower frequencies reduce the speed and increase the weight of motors and transformers beyond a commercial economy, while higher frequencies mechanically prevent getting the necessary number of pole pieces within an efficient compass or radius.

In the alternating arc lamp the high frequency makes an audible hum with a distinct "pitch" of tone more or less musical; the low frequency reduces this tone "pitch" and increases the volume with but a little lessened Wagnerian effect. This noise is partially eliminated by using a special transformer for arc service only.

There is a special arc transformer on the market that will feed a steady current through the ordinary \$7 carbon, dispensing with the \$20 to \$30 cored carbon and reducing the cost of carbons \$7 per year in the single carbon and \$14 per year in the double carbon lamp, giving an equally good service without the use of resistance or economizing coils with their corresponding waste of energy.

Running any make of alternating arc lamp from the incandescent transformer has not yet produced a competitive arc service; and applying the known results to the plants represented in this association, the application would resolve itself into the use of the regular arc dynamo and lamp where the number of lamps exceed forty. When an alternating station has an output of a few arc lamps, by all means use the alternating arc with a special transformer permitting the use of the ordinary carbon; but when you can sell more than forty arc lamps the saving of the current lost in conversion and the single-wire circuit of the regular arc system must then commend itself.

The alternations also affect the ordinary transformer. But two makers to my knowledge build a transformer especially for 7,200 alternations. All the other manufacturers build a transformer designed for high frequencies, and without altering the patterns or construction beyond a few trivial changes to make room for the necessary added ampere-turns of wire, offer a transformer presumably suitable for any frequency.

How does this affect the man who buys transformers? If he has a high frequency current this type of transformer will consume 50 per cent more magnetizing current than one designed only for high frequency.

If he applies the high frequency transformer to the low frequency current, the lack of necessary ampere-turns of wire or weight in iron makes the loss in magnetizing current still greater and the transformer mighty hot.

The quick repair transformer, wherein the iron field is split in two so the coils can be readily replaced, is too dear at any price, the broken magnetic circuit causing too great a loss of current in energizing the transformer, apart from the charring of the insulation by the excessive heat generated.

It is an apt illustration of the eternal fitness of things that the electrical apparatus built to repair easily soon develops a determined disposition to accommodate you.

Summing up the brief opinions offered might suggest to the members of the association who are probable buyers of new apparatus:

First—If the amount and valuation of your money will permit, buy direct-connected apparatus.

Second—If your means or present arrangement of power suggests the purchase of belt-driven dynamos, buy the heaviest slow-speed machine of the largest capacity practicable.

Third—Use 2½-watt lamps; 2-watt if you can buy them.

Fourth—If your power service is in small motors none of which are larger than 50 horse-power, use single-phase apparatus; if in motors larger than 50 horse-power, use multiphase.

Fifth—If the proportion of lights is greater than power, buy high frequency apparatus; if power is the most important service, buy low frequency.

Sixth—Use the largest transformer practicable having the best regulation consistent with minimum loss on no load.

Seventh—Sell all your current through meter and check up the station output with your receipts.

These suggestions numerically arranged, like the commandments, will not be taken, I trust, as advice. Advice is the cheapest thing I know of and I value my opinions too highly to offer them to any but those who choose to entertain them.

"Trades-unions are the bulwarks of modern

## Licensing Electrical Workers: in the State of New York.

Assemblyman P. F. Trainger has introduced into the New York Assembly a bill "to provide for the appointment in each judiciary district in the State of New York of a board of electrical examiners for the purpose of determining the qualifications and giving a rating to all persons, either journeymen, mechanics, or apprentices, engaged in installing or operating electrical apparatus and appliances in buildings for light, heat and power, or who may so desire to engage."

Some of the provisions of this bill, which has had its first reading and been referred to the Committee on Ways and Means, are as follows:

Section 1. There shall be appointed in each judiciary district of this State a board of electrical examiners, consisting of (4) four persons, which board shall be charged with the duty of determining the qualifications and giving a rating to all persons, either journeymen, mechanics or apprentices, engaged in or who may desire to engage in the installing or operation of electrical apparatus and appliances in buildings for light, heat and power.

Sec. 2. The members of such board shall be appointed by the Governor as follows: Two of said members of said board shall belong to the political party polling the highest number of votes for State officers at the general election at which the State officers were elected next preceding the appointment of said members, and the remaining two members of said board shall belong to the political party polling the next highest number of votes for such officers thereat.

At least two of the appointees of said board provided for in this act shall be electrical experts.

Sec. 3. Not more than one member of any board so appointed shall be a member of any firm or corporation engaged in the business of operating electrical apparatus or appliances in buildings for light, heat or power.

Sec. 6. The term of office shall be for two (2) years.

Sec. 9. The compensation of members of said boards of electrical examiners shall not exceed \$5 for each day actually served.

The Comptroller is hereby authorized to pay quarterly such salaries as are due from funds so accruing.

Sec. 12 provides that any person who shall "engage in the trade of installing or operating electrical apparatus or appliances in buildings for light, heat and power"

without having first obtained a certificate of qualification "shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than \$50 and not more than \$150 for each and every offence."

And Sec. 13 provides that "every employer who shall knowingly employ any person who has not obtained a certificate of qualification"

"shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than \$25 and not more than \$250 for each and every offence."

There are three classes of people in the community whom such an act will vitally affect. First, there is the electrical artisan whose status is to be determined by the board. Second, there are the underwriters who are interested in a business way in the efficiency of those whose status is to be determined; and third, there is the electrical engineering profession which depends for the proper carrying out and success of its work upon the competency of those which are directly affected by the proposed act.

The framer of this bill, it seems to us, has neglected all three of these, but provided most carefully for a fourth class, viz., the politician—and therein lies the fatal weakness of the bill.

Why, we ask, if this bill is presented with the view of being beneficial to any of the classes most affected, should the politics of the applicant be considered? If a man is a better artisan for being a Republican, why should a Democrat be considered at all? or vice versa.

This clause makes it appear that the bill is intended solely to provide political patronage for some one.

Another clause, which we have italicized, reads: "At least two of the appointees of said board provided for in this act shall be electrical experts."

By what course of mental evolution can the conclusion be reached that anyone not an electrical expert can be of any possible service in determining the qualifications of the applicant? It seems to us that this clause, which really provides that two members of the board may be totally incompetent, almost settles the matter that the bill is unfit for consideration by any other than politicians; but the bill is weak in many other respects.

Sec. 3 is particularly dangerous. Instead of providing that not more than one member of

tion engaged in lighting buildings, membership in such firm or corporation should be made a disqualifying clause. With political patronage such an important part in the appointments, what is to hinder any of our electrical concerns from practically controlling the boards to their own advantage and to their competitors' disadvantage?—*Electricity* (New York).

## The Control of Theater Lighting.

A switchboard for the control of the incandescent electric lighting of theaters must embody the following requirements: (1) It must be confined to a small space in order that every portion of it can be under the instant control of the switchboard operator. (2) It must be of the greatest possible simplicity in operation, in order that the greatest number of changes may be made with the least effort or number of motions. (3) Its equipment must be such as will effect the greatest possible economy in the use, control and dimming of lights. (4) Its design must effect many switching combinations so as to give any possible lighting effect required—a difficult requirement when it is remembered that moonlight, sunrise and sunset effects, together with other changes requiring perfect graduations and manipulations of light, such as tableaux, dark changes, lightning, etc., must be carried out. The contractor must have a full appreciation of the art of blending colored and white lights, and above all, his experience in electrical installation must be of the very highest order to secure the most important features of permanence and absolute reliability of workmanship.

There is no doubt that alternating currents constitute the ideal means for theater lighting, not only by reason of its flexibility in conversion, but because of the fact that in the use of tuning or choke coils is effected a most satisfactory means for dispensing with the use of resistances, which constitute a means of control that is wasteful of energy, hence very expensive. It is with a view of describing a modern theater installation operated on alternating circuit, that the accompanying drawings and illustrations are given. The subject chosen is the Macdonough Theater, of Oakland, Cal., which is believed to be one of the most perfect equipments of the kind on the Pacific coast, if not in the country.

The reaction or tuning coils constitute the only piece of apparatus used which is not of a familiar type, and these differ radically from ordinary tuning coils in that each step of tuning is accomplished through the cutting in or out a single choke coil. It was found by experiment to be desirable that there should be a range of seventeen steps in the tuning of the lights, to accomplish which, each tuning switch contains seventeen tuning coils, which are generally coupled in a series in the main current and commutated by the tuning switch, as clearly shown in Figure 2. There is, therefore, no movable secondary coil or core, but each of the coils used is a single reaction coil of ring type, wound with a single length of wire, varying in size according to the current carried on the circuit. The core of the coils consists of a length of seventeen feet of soft iron baling band, less than 1/8 of an inch in thickness by about 3/4 of an inch in width, which is rolled into a ring having an inside clearance about five inches. The different convolutions of the iron band may be insulated magnetically from each other by rusting or by paper, the latter being used in the present instance, and after the ring is finished, it is taped and dipped into plaster of paris several times until it is entirely encased by the plaster to a depth of about 1/4 of an inch. After having been thoroughly dried out the plaster ring is again taped and wound with wire as necessary, which finishes the coil. This form has been adopted after long experiment as best satisfying the conditions, and it is found that the use of plaster of paris proves most effective in deadening the hum of alternating current apparatus, as only by the closest listening at the choke coils can any hum be detected.

In Figure 1 may be found the detail of the auditorium or front-of-house switches, which shows the combination for changing to duplicate circuits or allowing any circuit to be cut out completely or to throw any circuit on the turning down switch. All switches used are of the double pole, double throw type, the house circuits being connected with the fulcrum of the switches. The main tuning switch is connected in series with the choke coils as shown in Figure 1 (the detail of the tuning coil switch being as in Figure 2), and to dim any or all circuits, it is only necessary to throw the switch to its lower "turn down" position, while the throwing of the switch to the upper portion cuts out the tuning switch from the circuit, thus burning the house lights to full brilliancy.

As previously described Figure 2 shows the

that a person who cannot discuss X rays is not considered up to date.

Although thousands of eminent scientists have been experimenting with the new rays, no theory has yet been advanced that appears entirely satisfactory, and in fact there are about as many theories as there are investigators. It is said that Edison has given up the problem.

Prof. Roentgen considers the effect due to longitudinal vibrations in the ether. Prof. Lodge considers the result due to a species of electrolysis. Infra-red and ultra-violet rays have also been suggested, while cathode rays have also come in for their share of abuse.

The most prominent characteristics of the X rays are: First, they are not refracted by lens or prism, hence cannot be focused, and in this respect differ from ultra-red or violet rays; second, they are not deflected by a magnet which differentiates them from cathode rays, which can be deflected by a magnet; third, they produce fluorescence; fourth, they are capable of producing chemical changes; fifth, all bodies are more or less transparent to them. It is this last peculiarity that has given such universal interest to the discovery, and on which the advocates of the longitudinal wave theory chiefly depend to prove their theory. This presupposes that the ether is at least slightly compressible. (The ether has been generally considered as an incompressible elastic.) Such vibrations could transmit the energy from the electrified source to the chemical molecule and throw it into vibration with the consequent image on the place. Such waves would probably have very long wave lengths, and hence be so slightly refracted by the lens or prism as to possibly escape all experimental determinations. Further, in consequence of long wave length they would readily pass through solid bodies. Such rays would not be deflected by a magnet, and being able to produce chemical change, could also transmit energy to set up fluorescence.

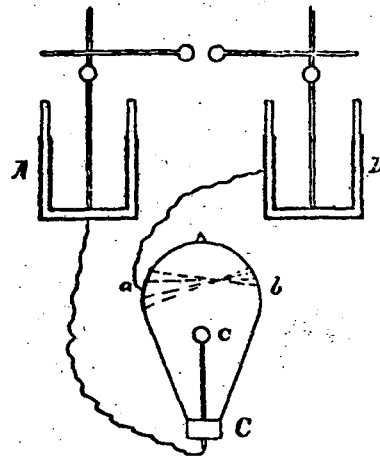
At first it was thought that the X rays could only be produced by passing an electrical discharge through a vacuum, but several experimenters have made excellent shadow pictures, using only two plates connected to an induction coil. This has led Prof. Lodge to suggest that the results follow from a species of electrolysis.

As the X rays do not affect any of our senses, experiments are rather difficult. The pictures taken by means of the new rays are shadow pictures and not photographs. The object is placed in front of the sensitive plate. The rays penetrate the object more or less, according to its density and an outline shadow is left on the sensitive plate, which can be developed the same as an ordinary negative. In taking a shadowgraph of the hand, the rays pass through the flesh more readily than through the bones, which thus cast a shadow on the sensitive plate, and when developed, show the gruesome outlines of the bones of the hand. The "new photography" will prove valuable in surgery in locating foreign substances in the body, such as a bullet. Several experiments in this line have proven highly successful.

#### EXPERIMENT WITH AN INFLUENCE MACHINE.

[M. I. Popia in *Electricity*.]

Let A and B, Fig. 1, be two Leyden jars whose inside coatings are connected to the opposite poles of an influence machine. Let the outside coating of one be connected to the electrode c of the vacuum bulb C. Let the outside coating of the other be connected to a piece of tin foil a on the outside of a vacuum bulb C. When the machine is working there will be a diffuse light in the bulb, and in addition to that there is an independent luminescent cone, sometimes a double cone, a, shown in diagram, of light proceeding from the outside electrode a to a point b on opposite side of the bulb. Surrounding the point b is a bright fluorescent spot. The double cone a b consists of cathode rays, and where they strike the glass at b there we have strong fluo-



escence, and there is the spot from which the Roentgen rays proceed in straight lines. The more powerful the fluorescence at the spot where this cone intersects the glass, the stronger will be the photographic effect of the Roentgen rays. By a proper adjustment of the curvature of the bulb, the fluorescent spot b can be made as small as we please. It is desirable to make it very small in order to obtain well-defined images. By shifting the tin foil, or by deflecting the cone by means of a magnet, we can adjust the position of b and also vary the area of the fluorescent spot in any desirable manner.

#### Electric Wiring in Cities and Dangers connected therewith.

Paper read before Union No. 78, of Saginaw, by Bro. Geo. S. Crabbe.

In opening a paper of this kind, it would perhaps be fitting to touch slightly on the history of the unseen power in which we and the rest of the world are so vitally interested. Electricity and mystery are terms which seem to connect themselves in the mind; for when the mind concentrates on the study of electricity, mystery immediately asserts itself.

The earliest mention of electricity was about 600 years before Christ. It did not become a science, however, until the seventeenth century, when Gilbert, a resident of England, published a book in which he listed several substances which under some circumstances become electrified. In his book he also speculated on magnetic and electric forces. Mr. Gilbert was the inventor of the word *electricity* which he derived from the Greek word *electron*, meaning amber. Electron, by the way, was the first substance on which experiments were made by the ancients. The seventeenth century also gave to the world its first electric machine; it being a globe of sulphur turned by a handle and rubbed by a cloth pressed against it by the hand. This was replaced in the early part of the eighteenth century by an improvement. About the middle of the eighteenth century a discovery of two kinds of electricity was made and conductors and non-conductors were distinguished. So on down the years have improvements been made; the machine primeval evolving into something better and each improvement leading to something new until at the present day the degree of efficiency of the modern machine over the one at which with bulging eyes our ancestors gazed, is certainly marvelous, and now in the nineteenth century is the subtle fluid which forms so much of our city life and which promises to be, as the years roll along, a power indispensable. Now is it bridled and reined and checked by scientific hands until it seems almost possible to look into its various pathways and analyze that which has always been and probably always will be a power unknown as to its form, its color, or its source. Long before the electric machine was put to practical use, chemical electricity, or more properly the electric battery, was much in vogue, being used then as it is now for the running of telegraph machines first, and following, a rather close second, the

telephone, vibrating bells and electric medical apparatus. The current necessary for the foregoing is of such light nature that to have one or all of them thickly connected throughout a village, town or city is comparatively without danger; in fact it has been observed that since all places of any size whatever have become networked with electric wires, the ravages of the lightning storm, which were formerly so great, are reduced to a minimum. But after the electric machine, or to get more familiar, let us call it dynamo—after the dynamo became so improved that it was practical for commercial use, and to get any practical use from it, necessitated such high voltage, larger conductors were needed, which, when charged, are not so trifling as the ones formerly interlacing our streets and by-ways. Passing over the heads of citizens in nearly every city and town in the civilized world are currents of that mysterious power, which of late years has arrived to the point where it is essential to life, while it possesses that property, as it were, of which nearly all of the world's goods are not devoid—too much is enough—and the intemperate use of it is quite liable to make the consumer feel uncomfortable. It is even reported that in "York State" a man was killed by it while reclining in a chair, smoking.

What we have gone through teaches us that in placing over the streets and in the buildings of our cities, conductors leading from power stations where currents of great magnitude are developed, we are handling a job with which should be associated the utmost care as to the way they are fastened to the insulated pins; more especially where the conductors lead around corners. Great care and judgment should be used in the selection of poles; looking as much to the safety of the electrical worker as to the neatness and stability of the job.

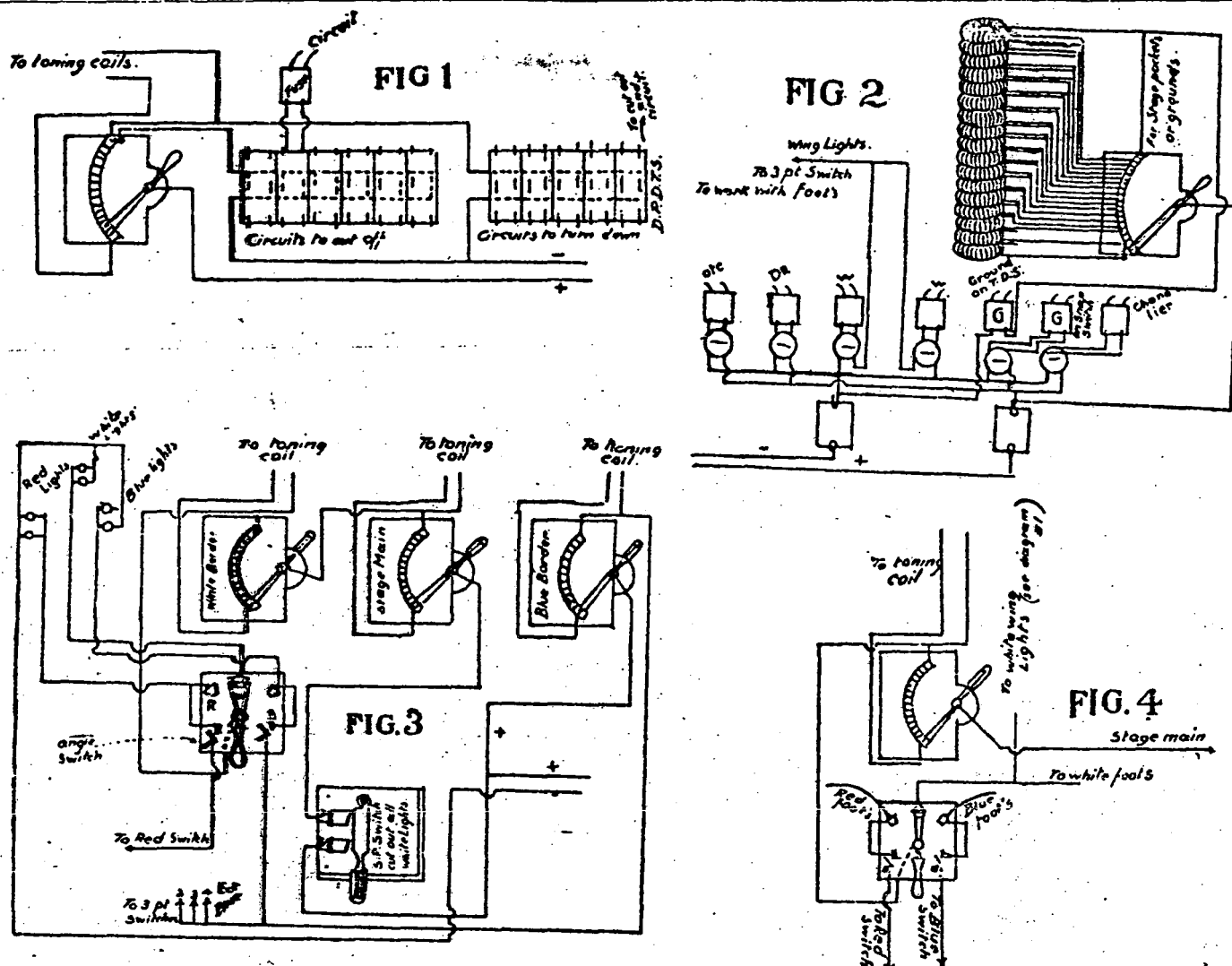
None but men who associate themselves with the Brotherhood, or with some kindred order, where they may be able to exchange ideas, should be allowed to handle the tools used in any of the various branches of this great study. This is not said from any radical point of view. Neither is it believed that a man should be enslaved to an order; but it is believed that the electrical workers should be men who at all times have at heart the safety of their fellow workmen and the further research of this great mystery.

The proportions of electricity as a study are so great that to get it where it is to-day required the combined strength of able minds; in view of which fact it stands to reason that the associating of electrical workers is but following the only rule whereby results attained will be the most satisfactory.

The tenor of this paper leads to the conclusion that the writer and reader is not in favor of removing poles and wires from the public high-ways; but the conclusion reached by those interested is in a measure wrong; because no one can dispute the advisability of clearing the streets of such cities as New York, Philadelphia, Chicago, etc., where there is enough business bustle to do away with the effect caused by the removal of wires, but in cities of 100,000 and downwards, which have not the degree of hubbub enjoyed by business men of larger places, to remove the electric wires is to tear out the index leaves of business.

The city's healthy flush, which now invites the traveler to spend a few hours or days, as the case may be, within its gates, would then be gone; and he would sniff his nose and wonder if he had just come in on a funeral car; leave his grip unpacked, take a pull from his flask and wait impatiently for the next train out.

There is more than direct danger to human life to be taken into consideration when speaking about the dangers which are undergone by cities. A city must have business; to get business within its gates it must secure business men; and it has been observed that if a man is given a good impression of a city when first entering, it goes a great way towards securing him. Nine out of ten



FIGURES 1, 2, 3, 4—The Control of Theatre Lighting.

dition show the arrangement of snap switches and fuse blocks for dressing rooms, stage chandeliers, wing lights, ground or stage lights, etc. Wing lights are ordinarily used in connection with the main footlight switch outlined in Figure 4. The sketch shows in particular the combination of foot and wing lights. One side of each circuit is taken from the snap switches in Figure 2 and carried to the three point switch in Figure 4, thus enabling the potential of the circuits to be turned down with the footlights, or cut out, as desired. The colored wing lights are operated in a similar manner, except that they are connected to the red and blue points of the three point switches only. This three point switch is really a main switch, and is ordinarily termed the ground switch, because it controls the lights that are used on the stage floor, such as bunch lights, piano lamps, and lights that are used in places where the foot or border lights might cast undesirable shadows. The term "ground," therefore, is thus used in a theatrical and not in an electrical sense, and from the ground switch, circuits are carried to pockets or receptacles cut into the stage for attaching floor plugs, etc. Four of these pockets are connected to the turn down switch, and two are connected to the snap switches marked C, thus allowing some to be cut out and others to be turned down, as desired.

Figure 3 shows a main single pole switch for cutting out all white lights on the stage and also a main turn down switch for tuning all white lights feeding through these two switches, G C (Figure 2). Current can thus be taken to the individual white border lights or to various border switches, as the case may be, thence for the border light switch to the lever of the three point switch W, and on the lamps, whence the circuit continues to the main line and is completed. When a quick change is desired from white to red or blue, the switch lever is thrown from the point W to the point R or B, respectively, as required for use in tableaux or living pictures. Should the white and red lamps on the same border be wanted, then the lever on the three point switch will be set on the white point W, and the small angle switch on

the same base will be closed on the circuit R, when the main colored border switch may be turned on, or if the blue border is needed simultaneously with the white border, the other angle switch will be closed with the point B, and the main blue border switch turned on. Connected to each white border switch is a three point switch having two angle switches, R and B, all of which may be thrown on to the main colored switches, so giving control of each border individually; or collectively, independent of the quick changing three point switch. The red border switch is not shown as it is simply a duplicate of the blue one. The three arrows marked 2, 3 and 4, lead to respective three point switches and connect to the angle switch, as shown in B, Figure 3.

The installation described was designed by Mr. J. A. Lightipe, engineer of the Pacific Coast District of the General Electric Co., and installed under the direction of Mr. Frank T. Whorf. By its use it is possible to accomplish any combination or blending of lights that may be desired.—*Journal of Electricity* (San Francisco).

#### Standard Rules for Electrical Construction.

A conference will be held in New York on March 18th, under the auspices of the National Electric Light Association, to formulate a set of standard rules for electrical construction. The following organizations will be represented: The American Institute of Electrical Engineers, by Prof. Francis B. Crocker; American Street Railway Association, by John A. Seely; National Board of Fire Underwriters, by Wm. H. Merrill; Western Union Telegraph Co., by A. S. Brown; Postal Telegraph Co., by Francis W. Jones; American Institute of Architects, by Alfred Stone; National Association of Fire Engineers, by Capt. Wm. Brophy; American Bell Telephone Co., by C. J. H. Woodbury; General Electric Co., by

Lieut. S. D. Greene. Westinghouse Electric Mfg. Co., by Chas. F. Scott. The National Electric Light Association will be represented by Wm. J. Hammer, Jas. I. Ayer, Harrison J. Smith, E. A. Leslie and Capt. Wm. Brophy.

At the present time there is no standard set of rules recognized as authoritative by all classes and interests. At the meeting in New York it is proposed that the rules which have been promulgated by the various interests, the electrical and insurance, shall be taken up for consideration and thoroughly discussed from the standpoint of the various interests represented at the meeting, with a view of forming a new code comprising the best that is in the rules now in vogue, and new matter considered advisable. After a code of rules has been prepared, which has met with the approval of the delegates attending the meeting, it shall be submitted by the delegates to the bodies which they represent with the intention of securing approval and support, but no organization is bound to accept these rules or any part of them. The committee hopes, however, that it will be able to compile such an excellent set of rules that its decision shall be unanimously accepted by all interests involved.

#### Roentgen Rays.

About a month ago a German professor read a paper before a scientific society describing his experiments with electric discharges through vacuum tubes and the discovery of a new form of radiation, which he called X or unknown rays. This announcement by Prof. Roentgen has caused an excitement which has not been confined to scientific men and the technical journals alone, but taken up by the daily press to such an extent



business men going into a town or city having dead streets, invariably are badly impressed. The hearers of this effort may think it strange that the writer has such views, after having been a fireman a great share of his life; in lieu of any better excuse, it can be said that if the removal of wires were not more dangerous to business than their remaining is to human life, this paper would emphatically say, remove.

But let all precautions be taken for the minimizing of the dangers which in a greater or lesser degree attend all manners of electrical wiring. All power stations should be in connection with the municipal fire alarm, the attendants familiar with the signal code and ready at all times to give it strict attention. Power and lighting currents should be turned off when a fire is in progress in the vicinity of high buildings, or where the wires form what is termed a network. And right here let it be said that all wires leading into business and other places should lead direct to the roofs of buildings thence to the places desired, thereby giving firemen ample opportunity to raise ladders.

Among dangerous wires may be named quite prominently, the trolley. However good the trolley wiring is at first constructed, it does not take much reasoning to know that it cannot long remain in a first-class condition, owing to the continual wear on all its connecting points. But it must be said to the credit of the men working for the street railway company in this city, that they have attended to business unusually well, as very few, if any, serious accidents have happened here. May they be as attentive in other cities as they have been here. And now we come to a danger vastly different in its nature to those heretofore spoken of: the grounding of currents, which, under the name of electrolysis, has occupied so much attention all over the country.

Great care should be exercised in putting in return conductors, using all means, regardless of expense, to obviate the accidents which are liable to occur from the effects of electrolysis. It is not necessary to enter into details regarding this newly born danger. We all know how the strong currents escape from their return conductors, and jump to water or gas conduits, then to some better path; and in leaving, how it corrodes the pipe, finally eating a hole, allowing the escape of either the water or the gas, as the case may be. If it is water, comparatively little danger is experienced; but if gas were allowed to escape until it fill the subterranean portions of a great building, and perchance a lighted match be thrown there, hundreds of people would be liable to suffer.

Once more urging the associating of electrical workers, and thanking the gentlemen here for the honor bestowed upon me, for their kind consideration, I will now bring this paper to a close.

#### Measurement of Resistance.

(Continued from December.)

BY JOHN W. SIMMONS.

It may be necessary to measure resistances which are higher or lower than any which can be inserted in the box R. The range can be extended by shunting one coil of the galvanometer—say by a wire one-ninth of the resistance of the coil—a balance will be obtained when the total resistance in that branch is one-tenth of the resistance of the other. For instance, suppose the coil of the galvanometer connected to R to be so shunted, and a balance to be obtained, when the resistance in R amounted to 650; then the unknown resistance would be nearly 6,500. I say nearly, because in order to obtain a perfectly accurate result, compensating resistance must be inserted to make the resistance of the shunted galvanometer coil equal to 50.

In measuring electro-magnets, or any single round coils, a sudden jerk, due to self-induction, will always be noticed on making or breaking the circuit. In such cases care should be taken to see that the needle rests at zero when no current

is flowing, and then the key should be depressed and the adjustments made with a steady, uninterrupted current until the needle again comes to zero.

By means, however, of a piece of apparatus known as the "Wheatstone Bridge" the value of any resistance can be readily measured. The principle of this invaluable apparatus is very simple, and is explained by the diagram (Fig. 5). Let us suppose two wires, A a c B and A b d B, either equal or unequal in resistance, to be joined in parallel and a current sent through or divided between them, as shown in the figure. The current will, as already explained, divide itself between the two wires inversely as their resistance, but, for the present purpose, the current strength is a matter of little or no importance. If now, one end of a galvanometer coil, G, is joined to any point, e, in one wire, and the other to a point g, in the other, very near to the junction B, a deflection of the galvanometer needle will be observed, indicating a current flowing from e to g.

On removing the galvanometer from g and joining to another point, h, also in the second wire, but very near to A, the galvanometer will again indicate a current, but flowing in the reverse direction, viz., from h to e. If contact were successively made at points along the wire A b d B farther from A, the current would become feeble and feebler until, finally, a point f would be found at which the needle would not be affected at all, showing the absence of a current through the galvanometer.

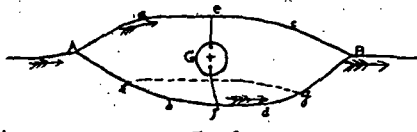


FIG. 5.

There can be but one explanation to these experiments, that whenever a current of electricity flows, it does so invariably in virtue of a difference of potential between the extremities of the conductor through which it flows, and, conversely, whenever the extremities of a conductor are at different potentials, a current flows through it. These two facts must never be lost sight of, for they constitute the key to a host of electrical phenomena and problems. Inasmuch then as it was seen by the evidence of the galvanometer, G (see Fig. 5), that a current passed through it when its terminals were connected to the points e and g, and to the points e and h, the current or currents flowed as a consequence of a difference of potential between those points. And the absence of a current on connecting the points e and f together is an equally clear proof that those two points were at the same or equal potentials. If we suppose A to be a higher potential than B, and connect the galvanometer directly to those points, so that it shall share the current arriving at A, the needle will be deflected to one side or the other, the particular deflection being governed by the direction of the current around the needle. Let us suppose the deflection to be to the right; then, on connecting the galvanometer to A and g, or even to e and g, the deflection will also be to the right, and will establish the fact that the potential at e is higher than that at g. On the other hand, the opposite deflection, which is obtained when the galvanometer is connected to e and h affords ample proof that the potential at h is higher than that at e. Now, as the ends of the two wires at A are always at the same potential, and as the ends at B are also at the same potential, although lower than that at A, it follows that the fall of potential along A a c B must equal that along A b d B. It also follows that if we fix upon any one point in either of the wires, there must always be a point somewhere in the other wire which will be at exactly the same potential, and if these two points are connected together no current can possibly flow between them. (To be continued.)

#### Postal Savings Bank.

At the New York convention of the A. F. of L. the following resolution was adopted:

"WHEREAS, Experience has taught us that the savings of working people deposited in the various institutions established for that purpose are subject to the caprices of unscrupulous dealers in questionable securities, and

"WHEREAS, We believe such savings should be at all times available; and as we believe it to be the duty of our National Government to give the people relief and provide a repository for such funds, therefore be it

"Resolved, That the Executive Council of the American Federation of Labor be and is hereby instructed to urge upon Congress the necessity of establishing savings institutions in connection with the postoffice department."

Congressman Allen, of Utah, has introduced the following bill (H. R. No. 5113) in the House of Representatives, which is in direct line with the resolution adopted by the American Federation of Labor and should receive the hearty support of all labor organizations:

#### A BILL

To authorize money-order postoffices to receive money on deposit.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That each and every money-order postoffice be, and the same is hereby, authorized and directed to receive on deposit lawful money of the United States, including National bank notes and the postal notes hereinafter specified, and to hold the same subject to the draft or order of the depositor; such deposits to draw interest at the rate of three per centum per annum and to be exempt from taxation.

Sec. 2. That moneys so deposited may be drawn upon by the Secretary of the Treasury to pay maturing obligations of the United States, to meet temporary deficiencies in the current revenues, and any surplus remaining may be loaned by said Secretary of the Treasury to States, counties, townships, or municipalities, on the security of their bonds, at a rate not less than three and one-half per centum per annum, and to an amount not exceeding ten per centum of the assessed valuation of the realty assessed in such State, county, township, or municipality.

Sec. 3. That if any depositor shall demand his deposit, in whole or in part, and the postmaster have not on hand sufficient coin, Treasury notes, and National bank notes to meet such demand, he shall issue to such depositor the amount demanded in postal notes in denominations of one, two, five, or ten dollars, as the depositor may elect, and such notes shall be full legal tender for all dues and obligations, public or private, contracted after the passage of this Act; and when any such note is received at any postoffice, custom-house, or sub-treasury of the United States it shall not be reissued, but shall be sent to the Treasury at Washington for cancellation.

Sec. 4. That the Postmaster-General shall cause to be provided the pass books, postal notes, checks, and other blanks necessary to carry out the provisions of this Act; and for this purpose the sum of ..... is hereby appropriated.

Sec. 5. That this Act shall take effect and be in force from and after its passage.

Commenting on the bill, the *Cleveland Citizen* says:

"It is hardly necessary to dwell upon the many good features of this bill. They stand out so prominent that even a child can grasp them. Postal savings banks we have advocated for years. The Treasurer of the United States being given power to borrow from the deposits would put an end to bond issues for the Rothschild gang, while loans to States, counties and municipalities would mean that the people could do business on their own credit, instead of lending it to a few bankers and then borrowing it again and paying interest for the use of their own fiat. The issuance of postal notes would prevent money panics in the future and at the same time provide a safe, sound and elastic currency."

"Labor is capital. Labor has the same right to protect itself by trades-unions, etc., as any other form of capital might claim for itself."—Cardinal Manning.



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St. Louis, Mo., March, 1896.

Advertising Rates on Application.



THE State Bureau of Labor Statistics of Illinois  
has published a pamphlet containing all the  
State laws of Illinois enacted in the interest of  
labor.

AT a mass-meeting of members of the Central  
Labor Union and sympathizers of organized  
labor, in Cooper Union, New York, on February  
28th, resolutions were adopted against the pro-  
posed expenditure of \$110,000,000 for coast defense,  
as well as more millions for an increased navy.  
A letter of regret from General Master Workman  
Sovereign of the Knights of Labor was roundly  
bissed.

AT Capitola, a suburb of Santa Cruz, Cal., a  
novel power plant has been erected, and experi-  
ments are being made to utilize the energy of the  
waves of the ocean for developing power. Several  
previous experiments have been made on the  
Pacific coast which proved failures, but according  
to the *Journal of Electricity*, which gave an illus-  
trated description of the plant in the January  
issue, the present experiment promises to be a  
success.

THE literary bureau of the Standard Oil Co.  
(Chicago University), according to the *Western  
Electrician*, has no equipment suitable to experi-  
ment with Roentgen rays. Probably Prof. Har-  
per is afraid the X rays might expose the size of  
the soul of the great philanthropist and benefactor  
of the university (J. D. Rockefeller), or the mo-  
tives which led to the retirement of Prof. Bemis,  
and is afraid to monkey with the rays at the uni-  
versity.

SECOND ASSISTANT POSTMASTER, GEN. NEILSON,  
has been experimenting with horseless mail  
wagons, and according to a dispatch from Wash-

ington, they will soon be used in all the large  
cities of the United States. For a long time  
Gen. Neilson has been engaged in making inves-  
tigations of the various means by which the  
mails may be transported. These investigations  
included street cars, pneumatic tubes and the  
electric horseless wagon. He has decided on the  
electrically propelled wagon which will simply  
be a small postoffice on wheels. It will be fitted up  
precisely as a mail street car or a steam railway  
postal car, except on a smaller scale. It is in-  
tended to place these wagons in cities which  
cover a large area, and where "separation"  
between four or five stations will greatly facilitate  
mail deliveries.

DURING the past year it was understood that  
the eight-hour work-day would be one of the  
most important questions to be brought before the  
convention of the American Federation of Labor,  
which met in New York in December. At this  
convention the eight-hour question was referred  
to a special committee. This committee recom-  
mended that the Executive Council of the A. F.  
of L. select one or more of the best prepared and  
conditioned trades to conduct the contest for the  
shorter work-day. The recommendation of the  
committee was adopted and accordingly several  
trades are putting forward their claims for mak-  
ing the initial fight for a universal eight-hour  
work-day. The two trades so far most prominently  
mentioned are the International Association of  
Machinists and the United Brotherhood of Car-  
penters and Joiners of America. It is probable  
that one or both of these trades will, on May 1st,  
make the stand for eight hours.

ACCORDING to a press dispatch from Baltimore,  
Prof. E. A. Rowland of John Hopkins University,  
has obtained successful results from his inven-  
tion for transmitting telegrams written upon a  
typewriter at the place of sending, and repro-  
duced in typewritten form at the receiving point.  
In addition to the typewriting part of the inven-  
tion, Prof. Rowland can send over the same wire  
five or six messages at the same time in one  
direction, which, in duplex, makes ten or twelve  
messages, which can be transmitted on the same  
wire at the same time. Thus, with five operators  
at each end of the line, sending each an average  
of thirty words a minute, 300 words can be trans-  
mitted each minute. He has used a synchronous  
device in his invention and in the mechanical  
arrangement of the typewriter has used but eight  
signals, the letters being produced by combi-  
nations. The current of electricity transmitting  
the messages can be relayed.

THE spirit of organization is abroad over the  
land. Old organizations are making great pro-  
gress and new ones are constantly springing up.  
The electrical workers have also caught the con-  
tagion and the X rays seem to have penetrated  
the craniums of some who have stood idly by for  
the past four years, and awakened in them a  
desire to organize and associate themselves with  
their fellow workers. Seven new Unions and  
over 1,000 members have been added to our organi-  
zation since the first of the year. Requests for  
information and for organizers are coming in  
from all sections of the country. Unions that  
went to the wall during the past year or two are  
arranging to reorganize. Old Unions are taking  
in a large number of new members in addition to  
reinstating old ones, and each Union seems to be  
trying to surpass its neighbor. We have not made  
the progress in the past that we should, but con-  
sidering all that we had to contend with, we have  
probably done as well as could be expected. Now,  
however, when those who stood aloof and thought  
that the electrical workers could not be organized  
or that the organization would go to pieces in a  
short time see that the National Brotherhood of  
Electrical Workers is here to stay, and realize

the good that it has accomplished in spite of the  
opposition it had to contend with, they begin to  
fall in line, and will in the future be found with  
their shoulders to the wheel working as earnestly  
for the success of the Brotherhood as the old  
members.

THE report of the Immigration Investigating  
Commission has just been published. This com-  
mission was appointed June 13, 1894, by the Secre-  
tary of the Treasury, to investigate and report  
what changes, if any, in the rules and regulations  
now in force are necessary in order to secure a more  
efficient execution of existing laws relating to  
immigration, and the laws prohibiting the impor-  
tation of alien laborers under contract; whether  
said laws are defective in any particular, and  
what particular difficulties, if any, have been  
encountered in their execution; what effect, if  
any, emigration has had upon the wages of labor  
or opportunities for employment in the United  
States, and whether or not the existing industrial  
condition of the country is attributable in any  
degree to the influx of laborers from abroad;  
whether any measures, and if so, what can be  
adopted under existing legislation to discourage  
the concentration of emigrant laborers in particu-  
lar localities and to secure a better distribution  
of emigrants whose admission to the country is  
not prohibited by law; also in regard to "padrone"  
system. The commission consisted of Herman  
Stump, Chairman; Dr. J. H. Senner, and Edward  
F. McSweeney, Secretary. The commission sent  
letters to all labor and reform organizations and  
individuals who had taken an interest in labor  
matters, and also made personal investigations at  
the different ports where emigrants land. The  
report contains the opinion of the most promi-  
nent labor leaders of the United States on the  
emigrant question, and contains much valuable  
statistics.

THE *Bulletin* of the Department of Labor for  
January has an interesting article on the in-  
dustrial revolution in Japan, from which we  
gather the following: The Japanese are not an  
original people, but are the greatest imitators  
on earth. A Japanese workman can make any-  
thing he has ever seen. Give him a piece of  
complicated mechanism—a watch or an electric  
apparatus—and he will reproduce it exactly, and  
set it running without instructions. He can imi-  
tate any process and copy any pattern or design  
more accurately and skillfully than any other  
race in the world. In 1885 the exports amounted  
to \$8,000,000, and the imports to \$14,000,000,  
while in 1894 exports amounted to \$56,000,000,  
and the imports to \$58,000,000. In 1894 Japan's  
exports to the United States amounted to  
\$21,000,000 and imports to \$5,000,000, while its  
imports from Great Britain amounted to \$21-  
000,000 and exports to \$4,000,000. The American  
Watch Co. has established a factory in Japan.  
The highest wages paid to skilled workmen in  
this factory are equivalent to 20 cents per day in  
our money, while the same class of work in  
America would be paid \$5 per day. The capacity  
of the factory is 150 watches a day. These watches  
can be sold in America for 50 per cent less than  
American watches. (How will this affect the  
American watch industry?) The average wages  
paid to mechanics in Japan is given as follows:  
Blacksmiths, 30 cents per day; bricklayers, 33  
cents; carpenters, 30 cents; compositors, 29 cents;  
cabinetmakers, 30 cents; paperhangers, 31 cents;  
stonecutters, 36 cents; tailors 28 cents; weavers,  
15 cents. It is not the pauper labor of Europe,  
but the labor of China and Japan that we must  
compete with in the future. In 1894 we sold  
Japan \$5,000,000 worth of goods, and bought  
\$21,000,000. When all sorts of factories are estab-  
lished in Japan, as they will be in a few years,  
what will be the effect on American wages?

Subscribe for the WORKER.

### High Dues.

The following was adopted by the New York convention of the American Federation of Labor.

**WHEREAS**, The experience of the labor movement in all periods of industrial depression, particularly in the past few years, as well as in former crises, proves conclusively that those trade unions which have high dues and beneficial features have been best able to hold their membership together in the most adverse times; and,

**WHEREAS**, Such trade unions have at the same time been successful in withstanding reduction of wages and other inroads of employers, and have maintained their trade rules most effectively, as well as to obtain substantial improvements; therefore, be it

**Resolved**, That we do most urgently recommend and shall ever insist on the national and international unions, and local unions connected therewith, to incorporate in their respective constitutions and laws, provisions to arrange for payment of sufficient monthly dues by the members to have treasuries large enough to sustain members in all cases of trade disputes, such as strikes and lockouts, and to establish the following benefits, viz:

1. Sack benefits.
2. Funeral benefits.
3. Disability benefits.
4. Out of work benefits for unemployed members.

### Cheap John Unions.

*Samuel Compers in American Federationist.*

Perhaps there is no question to which the workers give so little attention as the one of building up a good treasury in the union of their trade. Usually the workers organize a union as the result of an effort upon the part of the employers to take advantage of their employees; or, that the workers, influenced by a general rising tide of a revival in industry, seek to obtain some improvement in their condition.

The fact is, that when our fellow-workers are organized they have a peculiar faculty of under-estimating their own weakness and exaggerating the power of their employer, while the first attempts at organization by the workers usually create the very opposite state of affairs—that is, under-estimating the power of their employers and over-estimating that of themselves. They seem to have discovered a new element of strength. They have touched the shoulders of their brother-workers in the union. A new light has dawned upon them; a new hope has been awakened in their hearts, and a new enthusiasm has blossomed into existence. As a result, each one feels that each is a hero, self-sacrificing and willing to suffer until absolute victory is secured. A brief time demonstrates that it requires more than enthusiasm, more than hope, in order to win victories incidental to the struggles of labor, and the essential, the treasury of the organization, is sadly missing, and soon men find their ardor dampened and their declared devotion to the union a phrase they have forgotten, or, if remembered, it is with regret that they could not maintain it because of the absence of that which sustains brave hearts and noble souls engaged in the struggle for a just cause.

It is a strange fact that the history of the labor movement demonstrates, daily, that those unions of workers which have provided themselves most surely with substantial treasuries are those in which members are more highly respected, whose wages reach the highest point, whose hours of labor are the lowest, whose conditions of employment are the most reasonable and fair, and whose requests are more generally heeded, and who are required less often than all other workers to resort to a strike in order to obtain the redress of a grievance or the granting of some new concession; while on the other hand the workers unorganized, or poorly organized, or even when organized and have neglected the first essential, the payment of high dues in the union and an accumulation of a good fund, are those who are compelled to work the longest hours for the lowest wages under the most onerous conditions, and whose tenure of employment is such as to be only subject to the will or whim of some petty boss or understrapper.

These conditions are all relative and fixed. The employer or corporation will think very seriously before attempting to force a reduction of wages or other obnoxious condition upon well organized workmen equipped with a good treasury in their union, while the same employer or corporation would not give the subject matter a second thought with the workers either unorganized or poorly organized or poorly equipped financially.

It is strange how many workmen believe that there is some unknown source from which a

union can secure finances. It is a common thing among the newly organized, who may be engaged in any dispute, that they will inquire when they will receive their benefits and how long it will be before the money will be forthcoming. They fail to appreciate the fact that only just so much can be drawn out of the organization as the membership has paid in, except, of course, when in such instance where the voluntary contributions of other organizations are forthcoming. Should, however, the finances not materialize at once, many will abandon the union, declaring it to be "no good."

It is gratifying to know that among our fellow unionists throughout the country the idea is gaining ground that it is necessary in time of peace to prepare for war, and that the preparation in such times of peace, by providing a substantial treasury, is the greatest factor to obtain just and fair dealing without even the necessity for war.

The time is surely coming when our fellow-workers will organize in the unions of their respective trades and learn the lesson of those who have passed through very many stages and phases of the labor struggle, that it is necessary to pay higher dues into the union of their trade to receive many advantages, both direct and indirect, from the organization, and when this has been more generally adopted by the organized trade unionists of America, we will see less of the disturbing element both in and outside of our ranks. It will create a healthier public opinion. It will compel converts to our cause. Science and thoughts of the best minds will lay their garlands at the feet of organized labor. There will be a brighter day for all in the general recognition that the workers have determined to come out of the sloughs of despondency and despair; are striving for better and nobler conditions, and determined that their wrongs shall be remedied and their just rights recognized and granted.

But, before that day comes, it will require, on the part of our fellow-workers, a better and more thorough organization in the unions of their trades, and a general recognition on their part that it is necessary to perform their duty to themselves and toward each other, and that one of the duties of unionism is the payment of higher dues, to prepare for a better financial system.

### Municipal Lighting for Utica.

Prof. E. P. Roberts, electrical expert and president of the Correspondence School of Technology, Cleveland, O., has been engaged by the Citizens' Committee (consisting of the Trades Assembly and Business Men's Committees) of Utica, to examine and make report as to the cost to the city of erecting and maintaining an electric light plant with the purpose of lighting the streets of Utica. Mr. Roberts was in Utica last week to obtain the necessary information as to existing conditions, cost of labor and material, territory to be covered, etc., and it is expected that his report will be ready some time next week.—*Utica Advocate*.

### Information Wanted.

Anyone knowing the present whereabouts of Chas. F. Fleming, who joined the Brotherhood in June, 1895, at Bloomington, Ill., and was last heard of in Chicago, July 2, will please communicate with his mother, Mrs. M. Fleming, 1414 W. Congress St., Chicago, Ill., who will pay a reward of \$10 for positive information in regards to him.

### Patent Record.

The following recent electrical patents are reported by Longan, Higdon & Higdon, patent lawyers, second floor Odd Fellows' Building, St. Louis, and 48 Pacific Building, Washington, D. C.

No. 554,450—Underground Conduit for Electric Railways, Wm. S. Merkle, St. Louis.

No. 553,736—Electric Railway System, John F. Page, Chewacha, Ala.

No. 554,632—Electric Heater or Rheostat, Frank Kraemer and Max Kruger, Chicago, Ill.

No. 554,557, Electric Switch, Henry B. Whitehead, Memphis, Tenn.

"I look to the trades-unions as the principal means for benefiting the condition of the working classes."—Thorold Rogers (Professor of Political Economy, University of Oxford).

### Instructions to Financial Secretaries.

(Cut this out and paste in Ledger for future reference.)

In making out monthly report, enter exact date when dues were paid in column of month paid for. Thus if a member pays dues on March 4th for the month of March, enter in March column 3/4, and if he should pay for January, February and March, enter the date, 3/4 (or whatever the date of payment may be) in the January, February and March columns. This will indicate on the report that the member paid dues for January, February and March on March 4th.

Should a member take out a traveling card, the date of payment is entered for the months paid for, and the per capita must be remitted for these months. Thus if a member takes out a traveling card on April 1st for three months, the date 4/1, must be entered in the April, May and June columns.

Dues should be paid in advance and after the last meeting in the month the Financial Secretary should make out his report. When the dates of all payments during the month are entered, count the number of members who have paid, as indicated on the dates entered, and write the total number for each month at the foot of column. Add together these totals, and it will give the number of members on whom the per capita is to be paid at 20 cents for each member.

No per capita is paid on a member until he pays his dues and then only for the month or months his dues are paid for. Should a member be in arrears for dues for any amount not equal to the regular initiation fee, the per capita must be paid for each month when he settles up. Should he owe more (in dues) than the amount of the regular initiation fee, he can be reinstated on payment of regular initiation fee, when \$2, the same amount as for new members, must be included with the per capita.

Each member will be given a number from the General Office, and in making out reports it will not be necessary to write in the name on the first page, but in filling in the second page (that is the back of the report sheet), give name and number of card, excepting for new members where number of card should be left blank as the number will be furnished from the General Office, which can be used on all subsequent reports. For new members be particular to write name plainly, also age, date of admission and address, as indicated on the report blank. When a member is admitted by card, give address, so that Journal can be sent him. It is not necessary to report suspensions or reinstatements, for if no per capita has been received for a member for three consecutive months he stands suspended, and the fact that no per capita is entered on the official register for three months is sufficient evidence; also when per capita is paid on a suspended member, it is sufficient evidence of reinstatement the date of payment indicating the date on which he was reinstated. Consequently on the new reports no space is left for suspended or reinstated members.

### IN MEMORIAM.

**WHEREAS**, It has pleased the Ruler of all things to remove from our midst our friend and brother, Geo. Claypool; and

**WHEREAS**, The members of Local Union No. 18 feel that they have received an irreparable loss; be it

**Resolved**, That we tender our heartfelt sympathy to the bereaved family in this hour of trial; and be it further

**Resolved**, That a copy of these resolutions be sent to the family and also published in the official journal.

D. C. SPRECHER,  
C. H. ADAMS,  
J. J. LYNCH,  
Committee.

W. L. HUTCHISON, President.

## FROM OUR UNIONS.

MILWAUKEE, WIS.

*Editor Electrical Worker:*

The second annual masquerade ball under the auspices of Electrical Workers Union No. 2, was given at West Side Turn Hall, Jan. 30th. It was the most elaborate electrical display ever seen in this city. Who was there? Why everybody. The old man who for months conjured up bunches of hilarity. The girls with and without their age. Charlie and his cigarette, while superbly resting on his lapel waved a lonely "Oscar." Mermaids masked, lest their treacherous beauty became too deadly, floated by gracefully in touch with the measured rhythm of poetry and motion. The Tyrolean Nymph, elegant in her neatness vied with the buxom beauty of Germany, while the Goddess of Love took the Electrical Reins to sway the ocean of beauty to her will, and under the brilliant rays of nearly two thousand lights, the dancers tipped the light fantastic toe to the music of Kissinger's Orchestra.

There was a row of colored arc lights in front of the hall that made Fourth street as light as day. Two festoons with 350 colored lights appended, were placed diametrically across the hall and made a wonderful electrical effect. At the east end of the hall was a large star of red, white and blue colored incandescent lights. Another of the same design directly in front of the stage, while the word "Welcome" embedded in a halo of light was suspended in the shape of a half circle above the stage. Just beneath this in large letters were the words "Local No. 2" in different colored lights. A little farther back, a beautiful crescent decorated with one hundred lights and constantly changing by means of a concealed motor, gave the whole stage a unique and magnificent appearance. More than 350 couples participated in the Grand March, while 100 more stood around the side.

The most sensational feature of the evening was the "electrical dragon" (for which we are indebted to Bro. Zamel of No. 9). He looked sublime in his zoological gait, belching forth from his fiery throat sheets of flame like the flash from the cannon's mouth, while the great crowd looked on in wonder and amazement. Round after round of applause greeted the "fiery monster" as he was drawn around the hall by four of the boys who volunteered for the occasion. But even he with his august Satanic air found no exception to Bro. Roberts in Barnum's Inimitable or Bro. Lueck in the Dutch Extravaganza, until Bro. Stabbe in his bloomers and padded bust foretold the future of our homes. Then, horror-stricken with the awful catastrophe that was about to befall the human race, and with a look of agony in his fiery countenance he disappeared as if by magic.

The event will long be remembered as one of the most successful ever held in Milwaukee and shows the esteem the people of this city have for the Electrical Workers' Union. The receipts amounted to \$445.00. All the boys did good work to make the ball a success.

Bro. Lueck has ignored the challenge of Bro. S. from Jefferson, Wis., he having defeated that gentleman in a contest about five weeks ago—Bro. Lueck making the remarkable time of two miles in less than sixteen minutes.

W. H. Mahon, President of the National Association of Street Car Employees, was one of the guests of the evening and was much pleased at the delightful time the boys were having.

We initiated five new members last meeting, among them being Bro. Fisher, chief electrician of the Pfister Hotel, one of the finest hotels in the country.

Having noticed in your last issue inquiries about Patrick Carroll, would say that a lineman of that name was killed at Racine, Wis., about two months ago. Cannot get any more information here, but I think by writing to the Mayor or

some of the officers of the city of Racine, some information might be had. I do not know the man's first name.

WM. P. HOGAN, Press Secretary.

NEW YORK CITY, N. Y.

[FEBRUARY 3, 1896.]

*Editor Electrical Worker:*

In introducing Local No. 5 to our fellow workers and brothers, we wish to explain why in a city like New York, the greatest in point of members of any in the United States, we have so long delayed becoming members of the National Brotherhood. We have thought that a large city like ours could maintain an isolated union without affiliation with any other cities. We have tried the experiment for six years and found it wanting. We have in fact suffered much as our country suffered in 1776, with "taxation without representation." In other words, we have experienced the fact that we have had a Local that had for its officers men who were not representatives of the trade in the strictest sense, some—the last on a job and the first off, others—whose hand was against every employer and against whom every employer's hand was raised.

The consequence has been that we have been implicated in strikes that have been entirely unnecessarily ordered for trivial causes, and are now suffering from the lamentable follies of the past, and the anarchistic ideas of the professional agitator. We have come to the conclusion that our employers, while not angels without wings, are not our natural enemies, and that we are as much dependent on them as they on us, and that strikes if not entirely unnecessary, the grievances between employer and employe must be of a very peculiar nature if they cannot be settled by arbitration. Our officers have not only the respect of their fellow workers, but are among the best element in the trade. We have been organized only six weeks, and now number 314 members, and we can say without arrogance that we have nearly all the best men in the business, there being no electrical contractor whose shop is unrepresented, and we feel sure that ere the next number of the ELECTRICAL WORKER appears, we shall have the proud satisfaction of being able to state that every electrical worker of any standing in this city and vicinity will be enrolled in our ranks. Opposition of course, we have—what reform movement has not? But we feel confident that we shall be triumphant in a very few weeks, and shall be able to present to the Brotherhood the largest Local in its body, and greatly augment the National Union, that is destined to become not only numerically, but intellectually, the greatest in the States, if not in the world. "Unity is strength," undeniably. What a future is before us. A union of the workers in the grandest science and profession in the world. We bear no animosity, and wish by-gones to be by-gones, and extend the right hand of good fellowship to all in the trade who are worthy of it. We desire to heartily thank the Grand Secretary, Kelly, for the zealous interest he had taken in the formation of our Local, and for the hard work he had done to further the interests of the National Brotherhood, and feel sure with such officers at the helm, we need not be doubtful as to the ultimate state of our Union.

[FEBRUARY 25, 1896.]

In sending a report from Local No. 5 for this month, we are happy to be able to state that the victorious progress has continued, and although we have not absorbed every individual in the electrical trade in this vicinity, all our predictions have been realized. The annihilating defeat we were to have experienced at the hands of the Board of Walking Delegates, failed to materialize, but on the contrary, work has been resumed on all buildings where strikes had been instigated against members of Local No. 5, and

the Board has thereby acknowledged our Union to be a powerful factor in organized labor.

The wave of agitation for arbitration that is sweeping over civilized nations at the present time, has not only affected our Government, but the labor organizations in this city as well. They now see, as we saw at the time of the founding of our Local, the advisability and wisdom of submitting all differences between employer and employe to the calm judgment of an unpredjudiced committee, rather than indulge in the expensive and suicidal alternation of a strike, and we have the grim satisfaction of seeing a member (C. W. Hoadley) of our late Local, who was ever a "wheel horse," as he termed himself, in strike movements of the past, and our greatest "jollier" in times of trouble, advocating arbitration before one of the central labor bodies with as much vehemence as he formerly advocated strikes. A curious example of reversed polarity.

We have adopted the maxim that "Silence is golden" where diversity of opinion exists among labor organizations, and have refrained from correcting misstatements that have appeared from time to time in the daily papers, emanating from the Local most of us were once members of. Prosperous people do not boast, but move along quietly and contentedly. Failure is ever noisy, is ever seeking to shift the blame for the results of its own incapacity upon other shoulders, and we are pleased to see how facts have disproved false utterance; and events that have transpired have strengthened the Brotherhood greatly, owing to the fact that the glorious victory they were to gain has perched itself on our banner.

The hand of death has been among us and taken from the ranks of the electrical workers, one, F. C. Hamlin, more popularly known as Hank Hamlin, whose versatility may have brought other brothers outside of this city in contact with him. He was taken down with pneumonia on a Sunday, and on Wednesday following passed away. The thought cannot help occurring to us: "In the midst of life we are in death." He was one whose whole soul was absorbed in everything he took an interest in, and while he was a bitter foe to anything detrimental to the interests of the working man, he never stooped to any mean trickery, and was honest to the last degree. His death was particularly sad as he had just started in business for himself, with every indication of doing well.

Of accidents to brothers we have happily none to chronicle, although news reaches us that a "chief engineer" (?) in a small outlying town, endeavored to unite the opposite poles on a switch board through the medium of a file, with the usual disastrous results to his physiognomy. These little diversions from the hum-drum every day life in a central station cause us to sigh. We hope that the day is not far distant when there will be a law preventing any but competent men from handling dynamos and their appurtenances, and that some day corporations will no more think of allowing an oiler to try to run their plants, than they would think of getting a baker to do their plumbing.

In your last issue a brother murmurs a wail of lamentation, because as he states, "members of Locals rather than pay up their dues, move to other regions, and there work on out-of-date working cards." We will not criticize the methods adopted by other Locals in keeping delinquent members in line, but would gently intimate that any brother wandering into our little village will find it conducive to his comfort to have his credentials strictly O. K., and to pay a business visit to our Financial Secretary, before endeavoring to "play in our yard."

In answer to a request that Press Secretaries send to the ELECTRICAL WORKER their opinion as to the advisability of offering prizes for the most newsy and interesting communications sent to it, I, personally, am opposed to it, as it would not tend to increase correspondence, as only those



who had an idea they were embryo geniuses would avail themselves of the opportunity, while others who do not profess to be good correspondents would drop out, and the number of communications would be less than formerly. When a Press Secretary has arrived at the period when it is too much trouble to do what is expected of him, and his office calls for his services without pecuniary recompense, then the time has arrived for him to admit that he has mistaken his vocation.

In regretting my last communication did not arrive until one day too late, I wish to say, I wrote it immediately on receipt of particulars as to where and when to send it.

JOHN SHERWIN BULL, *Press Secretary.*

#### SAN FRANCISCO, CAL.

##### *Editor Electrical Worker:*

C. J. Corcoran, who has filled the position of city foreman for the Pacific Telephone Co. for four years, has been transferred with a promotion as Assistant Superintendent of Construction for the Sunset Telephone and Pacific Telephone Co.'s, with headquarters at Los Angeles, Cal. C. J. Fendergast has been appointed city foreman, and the boys like Neil very well, but there was only one Con Corcoran.

The old feed wires on the Sutro Electric Road are being replaced with new and heavier ones. It is estimated that 30,000 people rode out to the Cliff House the day the road was thrown open for passengers.

Alameda, our sister city across the bay, is putting in \$25,000 improvements in her electric light plant; a new 5,000-light alternator is one of the main features included.

The Sunset Telephone Co. sent eight men to Los Angeles on the 20th of January, and ten more are to follow as soon as they can get that many together.

No. 6 is to give a grand dress ball on the night of the 15th of February, and in our next letter will give our eastern brothers an idea of what boys out in the golden West can do. We are to have one of the finest electrical displays ever seen on the Pacific coast.

The Union Iron Works, of San Francisco, has the contract to build and install the electric light plants in the Parrott Block on Market street. To give you boys in the little town of St. Louis an idea how large the Parrott Block is, there are to be 1,000 lawyers' offices and a complete light plant and telephone exchange in the building.

The Palace Hotel on Market street is to have a new light plant installed by Union Iron Works in the near future.

Bro. McGinley, who was so badly injured by falling from a pole on Turk street Christmas eve, is up and feeling good under the circumstances.

Bro. C. S. Lisenby, who has been on the sick list for three weeks, was able to ride down to the office and have a talk with the paymaster of the 'Phone, on the 5th.

Bro. Bennett, who fell and broke three ribs at the Union Iron Works, in December, 1895, is back at work again.

Bro. Gas. Erickson got a very bad strain while lifting on a sixty-foot pole at the yard of the Telephone Co. February 7th. In some way he hurt his back and had to be carried from the trolley car, as he could not walk; but we hope it is not a serious strain.

We are having very fine weather now, and we feel for our eastern brothers, but it never gets too cold for an N. B. E. W. man to get out and do his duty. So, hoping for a good letter next month, we will put on a jumper for this month.

LITTLE.

#### A 'Frisco Lineman.

DEDICATED TO T. B. BARRETT.

'Twas a balmy summer's eve, and a goodly crowd was there,

That well nigh filled Martin's bar room on the corner of the square;

And as songs and witty stories floated through the open door,

A strange lineman floated in and gazed upon the floor.

Where did it come, Atwood said—the wind has blown it in.

What do you want, Porter cried—some whisky, rum or gin?

Here, McGinley, throw him out, if you're equal to the work;

Cameron wouldn't touch him with a pike-pole—he is full as a Turk.

This guff the drunken lineman took with very good grace;

In fact, he smiled as though he had struck the proper place.

Come, boys, I know there's kindly hearts in such a goodly crowd;

To be in such good company would make a deacon proud.

Give me a drink; that's what I want, I'm out of funds you know;

When I'd cash to treat the gang, this haud was never slow.

What! Fulton, you laugh as though this pocket never had a son!

Well, Rush can tell you, I once was as well fixed as any one of you.

There, thanks! that drink braced me up nicely; God bless you one and all,

Next time I pass this good' saloon I'll make another call.

No! Masten, I can't sing, my singing days are past,

My voice is worn out from asking booze—my lungs are going fast.

Say! Koons, give me another whisky, and I'll tell you what I'll do.

I'll tell you a funny story, and a fact I promise too—

That I ever was a decent lineman, not one of you'd think;

But I was some four or five years back. Say! Frenchy, give another drink.

Fill her up, Andy, I want to put some life into my frame;

Such drinks to a man like me are miserably tame.

Five fingers, and corking whisky, that's a good scheme too;

Well, boys, here's luck, and Andy, my best regards to you.

You have treated me very kindly, and I'd like to tell you how

I came to be the drunken sot you see before you now:

I worked hard on Party Lines, and thus bidding fair to rise,

For gradually I saw the star of fame before my eyes.

And then I met a woman, now comes the funny part,

With eyes that petrified my brain, and snuk into my heart!

Say! Kinney, did you ever see a girl for whom your soul you'd give?

With a form Milo-Venus, too beautiful to live?

I was working on a Party Line one afternoon in May,

With Kearney (a friend of mine), who lived across the way,

And Mabel admired him—and much to my surprise,

Said "she'd like to know the lineman that had such dreamy eyes."

It didn't take her long to know him, and before a month had flown,

Kearney had stolen my darling, and I was left alone.

That's why I took to drink, boys—why, I haven't seen a smile,

I thought you'd be amused and laughing all the while.

Now! Bentley, what's the matter old man, I see a tear drop from your eye.

Come! laugh like me; it's only babes and women that cry!

Say! Hogan, if you'll give us another whisky, I'll be glad,

For I have told you of the girl that drove this lineman mad.

Once I was a union man, but the time has long gone by—

I let my dues go unpaid, I had too much good booze to buy.

But, boys, I'll go up next Wednesday night and square my back dues up,

Then, on the oath of a union man, I'll set aside the fatal cup.

So, good-bye boys, I have some trouble out in the mission to chase,

And next Wednesday night you'll find me sober with the boys in this place.

CHAS. M. LITTLE,  
*Press Secretary L. U. No. 6.*

#### TOLEDO, O.

##### *Editor Electrical Worker:*

The Electrical Workers' ball at Friendship Hall was well attended, and all who came got their money's worth. The hall was decorated in good style, being lighted by strings of small incandescents of different colors, and also a design with the letters N. B. E. W., made of small incandescent lights. The most beautiful design was over the musicians, which read "Welcome All." McCree orchestra furnished good music. Our charter was decorated with colored lights and two large American flags. We also had a Harrison 'phone connected with general office. The lamps and current were furnished by the Toledo Electric Street Railroad Co. gratis. We extend them our sincere thanks and will not forget the favor.

The following were the committees in charge: Floor: Wm. H. Welsh, John Callahan, James F. Slattery, Perry J. Fitzgerald. Reception: J. W. Bramsch, Chas. W. White, Murney Cummings, James Coney, David Antieau, W. Callahan. Arrangement: James Coney, Wm. Fobare, Peter Crowley. FARMER.

#### CHICAGO, ILL.

##### *Editor Electrical Worker:*

Chicago's most prosperous year in electrical industries, that of 1895, has gone, and 1896 is here in earnest with sleets and blizzards almost weekly. If they continue, Chicago will still have a little to do, but otherwise there is not much going on. The street railways are employing barely enough men to keep moving. The Telephone Co. is laying off men right along and now has just about its winter force. The Postal Tel. Co. has also laid off two or three gangs, letting some of our boys back into the city, but most of them are at work again.

Our meetings are fairly well attended this winter and we are trying to make them as interesting as possible, good debates playing an important part.

We are very sorry not to have received our January WORKER, some of the boys being quite disappointed.

As this is my first article it will undoubtedly be short, but you will hear from us in good shape next month.

[FEBRUARY 20TH.]

As I have been out of the city for nearly two weeks, and have missed two meetings, you will find me rather short of news this month, which I regret very much as I know a good many of the boys are always anxious to hear from Chicago. My last month's article was too late for the WORKER, but Bro. Hatt kindly came to the front

with something for us all to think about, and very carefully too. It is too bad that we haven't more of our brothers contributing to the columns of our paper. It seems to me that it has been left entirely to a few liberal minded and progressive brothers to do it all, and I have noticed that some of our old contributors whose articles on electricity have been very interesting in the past are seldom heard from of late. Let us hear from you brothers, all of you. You don't have to be a Press Secretary to write for the WORKER, and your ideas may be good pointers for some of us. I should think that a question-and-answer column would be of interest to our readers; all questions asked in one issue to be answered by the brothers in the next, the editor to publish such answers as he thinks best explains the subject.

Hoping to hear from all our brothers liberally, I will close the circuit until our next issue.

PRESS SECRETARY.

#### CHICAGO, ILL.

##### Editor Electrical Worker:

A great many laborers think that as long as a man is working he ought not bother himself about politics. This is just where the greatest mistake is made. You should know how to form and what kind of government is necessary for your own benefit and then work and vote to that end. In the last WORKER I showed what kind of money was necessary to do the business of the country with. Now I wish to show the most important point after we have that, and that is the way in which to keep this money in circulation. Money with a people is just the same as the blood is to the human system. When the banks failed in 1893, private and national, and ruined thousands of people, they became panic-stricken at their loss and necessarily lost confidence in such institutions, and the next thing they did was to put their money somewhere where they were sure they could get it when needed. Consequently they sought safe deposit vaults. To do this, as money in such places is out of circulation, necessarily stagnates business by being contracted. It is estimated that two billion of dollars is contracted in just this manner. The money lost in the bank was not depreciated, however, and was as good as before the bank failed; and why? because the whole Government backed it up and we have confidence in the Government to do so. Now, that being the case, the thing that should be done is to have the Government do all the banking. This will restore confidence, and with the return of confidence, prosperity to all the land is assured, and money will come out of its hiding place, circulate freely, and we will see prosperity that was never seen before.

It is really more necessary for the Government to do the banking of this nation than it is for it to run the postal service. But the bankers and money sharks will make a desperate fight against this, and why should they not? It would make them go into some legitimate business. Now all this can be brought about by your vote, and this is the year and now is the time for action. Go to the primaries and don't fail to go to the polls and vote. It is the most sacred right an American citizen has. Find out your man who will do this and vote for him. Don't go and lay down and depend on some one else to do it.

Would like to hear from Bro. Maloney, of Texas, on this political question, as Texas is a great State and its people take a stand when all others fail.

C. D. HATT.

#### PHILADELPHIA, PA.

##### Editor Electrical Worker:

If I had realized when this office was thrust upon me the amount of earnest thought required to fulfill the same, I would have remarked "nit," for the reason that it hurts me to think, but since it is too late to murmur now, I will try and keep the readers of our Journal informed from time to time of such events as occur that are worth mentioning

in the City of Brotherly Love (and sisterly ditto). No. 15 is at present enjoying a decided boom, which if continued will compel us to abandon our present quarters and hold meetings in Fairmount Park. We are thinking of purchasing Dan Stuart's tent for the purpose. We have added about thirty new members since the first of the year, and several are to be cut in soon. Nearly all the old members have fallen in line and are more enthusiastic than ever.

Our worthy president (Smithy, de push) has assumed the role of organizer and has been very successful. He does not deserve all the credit, however, as there are other members in No. 15 who are just as anxious to push a good thing along. Bro. (Chip) Ferris of the Union Traction Co., manages to corral a few each week, and McRiley looks out for those who may stray into the neighborhood of the Pennsy. In fact it is the ambition of every member to spare no effort until No. 15 has become the banner local of the N. B. E. W. We are taking in helpers now, and although some of them are that far advanced in years that they can scarcely hope to ever become climbers, there will always be, no doubt, something to do in the electrical profession for an experienced worker.

The much dreaded snowball has not made its appearance in Philadelphia this winter, and although several of the boys are out of work, they are faring on a more nourishing diet. Prospects for 1896 are bright, and I hope that by next month to have something more encouraging to say for those who may be needy like

BOYLE, Press Secretary.

#### PHILADELPHIA, PA.

##### Editor Electrical Worker:

In my travels through the country I am brought or rather come across pretty nearly all classes of men in the electrical business, but in my travels through the country the electric light plant at Ninth street, Harrisburg, takes the biscuit. It is not only up to date, but the men running it are gentlemen and understand their business, with the exception of one or two. One especially, a little short fellow, who, from all appearance, I should take for a Dutchman. He calls himself chief engineer, but he does the running on the night turn. He is one of these men who knows all, but when it comes down to the test, knows nothing. In the part of the country I come from he couldn't run a toy engine. My conversation with him proved that at once. The first thing he did was to run down the engineer on the day run. He was everything but a gentleman. Of course I knew better, because I saw him first, had a conversation with him, and found him not only a gentleman but a scholar and a mechanic and a man of character and principle as well. After leaving the two-hundred-pounder, I went to the dynamo room. There I found a man not as large as his partner below, but a little whiter as far as the locks of hair are concerned, but hustling as well as his partner and a perfect gentleman in every respect, bright and attentive to his work; had a good word for all his boys, and the men around him; did not start in to condemn every person who had any authority as did the Dutchman, and commence to tell me how he would run the place. Well, in my estimation he hasn't brains to run a slop cart. He is one of these kind that was sadly neglected in his youth. I also found the dynamo man and his assistant perfect gentlemen. My conversation with them was pleasant in every respect. I threw them some hints about their engineer, but neither of them said a word neither for nor against him, which proved to me at once that they had too much honor and respect for themselves to let an entire stranger in to what they thought of the man, yet they partly knew what I thought of him as I was not very slow in giving them to understand that my opinion of him was very small. Now, gentlemen, let me tell you one and all, who

see this: when a stranger comes in to your place of business or to where you are working, don't run down your fellow workman and those in authority, and that if you ran it what you would do and all that, for you can bet they are running it right, or they wouldn't be there; you are only showing your ignorance. Keep your troubles to yourself and you will get along better, have more friends and be more respected.

JONES.

#### DETROIT, MICH.

##### Editor Electrical Worker:

At our last meeting the committee having in charge our fourth annual ball made their full report, which was very gratifying, having about \$50 on hand, after all expenses were paid, to drop into the treasury. Bro. Jas. Runkle received the prize for selling the most tickets, consisting of an emblematic button, having sold forty tickets. Your humble servant was also presented with a button, but for what reason I have not yet discovered. Bro. D. Conine was kept busy at the lunch counter; the only trouble he experienced was to keep the mustard out of his hair. Bro. M. Conine left home in such a hurry that he forgot his glass eye, and left it in the "wash;" he was therefore compelled to appoint an assistant bartender, as he could only watch one end of the bar at a time.

No. 17 will hold a special meeting on March 12th, to listen to a lecture on "alternating currents," to be delivered by City Electrician Alex Dow. Jos. E. Lockwood and other prominent electricians have also been invited to speak.

The Public Lighting Commission have submitted their estimates for the fiscal year, and among the improvements they contemplate is an addition of 200 arc lamps to their street circuits, 57 arcs and 600 incandescent lights on Belle Isle Park, also the furnishing of current to light the public buildings and fire engine houses throughout the city.

We are pleased to report that Bro. Klein is again able to take part in our meetings after a two months' siege with a broken hip. While his "off" leg is still slightly "game," his oratorical powers have improved about ten horse power.

The electrical workers here seem to be taking advantage of the low rate of initiation, No. 17 having initiated two, and received 10 applications at our last meeting.

Cupid is again playing havoc in our ranks, Bro. Donnor having become a benedict, but as he does not hold him captive meeting nights, we forgive him and join in wishing Bro. Donnor and bride long life and happiness.

Times are rather dull here just at present, and as there is a dearth of electrical news, I will stop before I tire your readers.

JOE BEDORE.

#### KANSAS CITY, MO.

##### Editor Electrical Worker:

News in this vicinity is scarce at present writing but being a firm believer in the principle of cooperation in the support of our Journal, I would not miss writing a few lines for any price, so I will say "Hello!" to all the "stations" in our grand circuit.

Electrical business is very dull here at present and there are but few chances that it will improve very much this summer.

The Missouri and Kansas Tel. Co., the Western Union and Postal, will begin putting wires underground in the near future: so says a city ordinance to that effect. The contractors are doing almost nothing at all and a number of "wire pullers" are out of a job.

It is rumored that the Metropolitan Street Railway Co. will change several cable roads to electric lines this summer and also extend several existing lines and build a new one on Wyandotte street. They are at present rebuilding a number of old cars and changing from T-H F-30 motors

to G. E. 800 motors. They are also considering the advisability of building a large power-house in the center of the city and transmit electric power to the various cable power-houses, and by the use of large motors for driving the cables thus do away with engines in all but the generating plant. This is all talk and may be taken for what it is worth; however, we hope it will be done, as it would make work good here for a while.

If any one wants to "get his clock fixed," call on Bro. C. L. Lord.

"Commodore" C. F. Drollinger is again among us after a long absence with a gang of Postal "highwaymen."

Matrimony has invaded our ranks and the latest victim is our worthy President, W. L. Hutchison, who was married to Miss Kittie L. Brasey on the evening of February 5th. The entire membership of No. 18 and many other friends of the happy couple join in wishing them a prosperous journey through life. Next!

Bro. I. C. Underwood is a model member of the Union. He rarely misses a meeting, pays his dues promptly, is ever ready to say and do something for the good of the Union and abides by the will of the majority without a kick. It is unnecessary to add that he has many friends among the boys.

Bro. Torpey, who was on the sick list, has recovered.

Why is it that some members never attend a meeting or help the Union along, but are always kicking about the Union? I believe if we were to obtain a photo of the insides of their heads by the use of a Crooke's tube we would find a great deal of empty space there.

Below are some recipes which may be useful to electrical workers:

**Moisture-proof glue**—One pound of glue melted in skim milk, two parts.

**Marine glue**—One part indiarubber, twelve parts mineral naphtha; mix, heat gently and add twenty parts of shellac, powdered fine. Cool on a slab. Heat to 250 degrees when wanted to use. Neither oil nor water will penetrate this glue.

What is the matter with the Press Secretary of No. 60? D. C. SPRECHER, *Press Secretary*.

#### OMAHA, NEB.

##### *Editor Electrical Worker:*

Having been elected Press Secretary of Local No. 22 I will endeavor to give the Brotherhood the news from this, the chief town on the "Big Muddy."

Our Union has removed its lodge rooms to the Labor Temple, where we have elegant apartments under exclusive control of the labor organizations of the city. The management is composed of a board of directors made up of the presidents of all local unions that meet there.

M. J. Coughill of this city has just returned from Cripple Creek, where he has been endeavoring to secure contracts for installing lighting plants in the mines of that place. He pronounces himself well pleased with the outlook and intends returning in a few days.

The Thompson-Houston has completed its three-phase system and there is scarcely a converter of less than 400-light capacity in the business part of the city.

The street railway company is contemplating an extension of its Twenty-fourth street line to Florence this year.

J. W. Burke is installing an isolated plant in the Millard Hotel.

This, I think, is all for the present, but you will hear oftener from No. 22 in the future.

F. H. ROCHE, *Press Secretary*.

#### DULUTH, MINN.

##### *Editor Electrical Worker:*

As it is getting late and dark, I will have to throw her in and as I look about me in the room, I can see that all our lights are burning. Bro. AL. Stirbard is upon the iron range doing a small

job for the Burgess Electric Co. and Bro. Runkle who is also an employe of the Burgess Co. has just returned from Ashland, Wis., where he has just completed a job of fixture hanging in the Masonic Temple Building. Bro. Runkle, while in Ashland ran across Bro. Jansen of Local No. 2, for whom he has great words of praise. Bro. Runkle said that if Bro. Jansen was a sample of members of No. 2 they must have a poor Union there.

I have been informed that Bro. Fred Holland is in receipt of a nine-pound armature winder, and Freddie set up the cigars.

On the first of February, the Hartman General Electric Co., which is the only power company in our city, gained the controlling interest in the Duluth Gas and Water Co., and now controls all gas and electric lighting in our city. The Hartman Company was incorporated about eight years ago under the above name. There was at that time two other companies, The Duluth Electric Light and Power Co., and the West Duluth Electric Co. Shortly after the Hartman Co. was in motion they got control of the Duluth Electric Light and Power Co., and then they built a new station which was a noble edifice. A few months later they got control of the West Duluth Electric Co., and on February 1, 1896, they got control of the Duluth Gas and Water Co., and now control all gas and electric lighting in the city. Also the supply of water. The Hartman station is now situated at the foot of Fourth avenue, W. and Railroad street.

On the 4th of February there was a municipal election held in Duluth, in which labor organizations took a prominent part. Their candidate was supported almost to a man by union men, but the corporations and all the newspapers in the city were against him, but for all of that he was elected by a big majority. Union men in general throughout the country should unite in such a way and thereby they would accomplish a great purpose. I suppose the members of the Brotherhood would feel a little surprised to learn that some of the members of No. 25 are also members of Local Union No. 32 of the National Alliance of Theatrical Stage Employees of Duluth. The stage employes are on strike here and are doing good work. The Lyceum Theatre of Duluth is boycotted and the shows that come this way are playing to empty seats, but the management still insists that he is doing good business.

Just a few words to the brother, or "An Up and Down Man" from Philadelphia on the medal question, and then I will come to a stop. In the first six months is a good limit for the race for the championship medal; we will also hear from more locals and in such a way we will get more information, but as for missing one month, I cannot agree with the brother from Phillie. If a Press Secretary should miss one month, it would leave him out of the race entirely, and it would discourage him, let it be two months instead of one and then if he misses one month let it be deducted from his share of the good work, and when the different unions take a vote on it, let them consider the one month lost, and instead of taking it out of the general funds, let us make an assessment of 25 cents from each local every six months, whether in the contest or not; 25 cents from each local would amount to considerable, and would buy a handsome medal—one which the successful secretary could be proud of for all his life, and no secretary to receive more than one medal. F. A. SCHULTE, *Press Secretary*.

#### WASHINGTON, D. C.

##### *Editor Electrical Worker:*

There isn't much to write about this time, but I suppose I had better do the best I can or lose my job; so here it goes.

The Heinrich Brewery, which has been pronounced by an expert to be one of the best equipped establishments of the kind in the

world, has been completed. "Prof." Billy Watzel was "boss" on the job, ably assisted by Bros. Brown, White, Bland, Whitman, Wilder, Aukrim, "Davie" Rabbitt, Tuinmann, Harrington and Woodward, they in turn being assisted by Frank Hold and Charlie Vose, Jr. This brewery has a capacity of half a million barrels per annum. The main building connects with the Potomac River by means of a tunnel 1,700 feet long. "Prof." Watzel required every man on the job to show up his card daily.

Bro. M. O. Spring, who has charge of the House & Herrmann job, reports it as being nearly finished.

No. 26 is again affiliated with the Building Trades Council and is represented in that body by a set of hustlers, headed by President Geo. A. Malone and Bro. "Constitution" McCrink.

Bro. Harry Hubbell has a young lady at his house, and she isn't very old either, but it's the first one and Harry is a papa at last, so he's quite proud.

Prof. W. K. Carr gave an excellent lecture to a number of our members and has been requested to give another one at an early date.

Bro. Henry Phillips will give a birthday party the 29th of this month and all the brothers have been invited. Henry says there will be a royal welcome and all kinds of a good time to be found at his house on that night.

The Steamer City of Richmond is to be wired up shortly, and from present indications it is thought that a Baltimore firm will secure the contract. I hope the members of No. 27 will keep an eye on this job.

Bro. Hebbard, our Treasurer, met with a painful accident recently, and has undergone an operation at the Homœopathic Hospital, where he has been for the past three weeks. He will be out in a week or so. Bro. Hebbard was taken care of by No. 26, and he can tell you whether a Union is of any benefit to a man or not. He is one of the best members we have, and is heartily welcome to all we can do for him.

Bro. "Bob" Metzel has been making the backsliders "hop up" and seems to be able to "hold down his job."

Bro. Aukrim of No. 27 has deposited his card with No. 26. Bro. Aukrim doesn't say much, but I guess he could handle a pretty large contract for thinking, as he seems to be a very clever sort of a fellow.

Sydney M. Wilder has joined the ranks as has also R. C. Tuinmann, who was formerly employed in the Government printing office as an inside wireman. Both are good people and have come to stay.

Can any one tell me what has become of a Union formerly known as No. 3 of New York City? Did the members of that organization "come in out of the wet?"

Bro. Al. Man is regenerating the wiring at the National Hotel, and is bossing the job and making Bro. Jack Lloyd do all the work.

I promised to write something about the plant at Uncle Sam's big printing office for this issue, but am afraid of the editorial blue pencil, so au revoir. DAVID H. CARR, *Press Secretary*.

#### BALTIMORE, MD.

##### *Editor Electrical Worker:*

I will close the switch for the first time, and report another victim to the Brush high tension current. While working on telephone wires, Bro. V. H. Owen came in contact with Brush wires, and was instantly killed by the shock and fall which he received. Local No. 27 extends her sympathy to his wife and several children, who are left to mourn their loss.

Work is extremely slack in the Monumental City at present, and I will venture to suggest to any unfortunate brother who may be looking for work to give Baltimore a wide berth. There is a rumor that the Edison Electrical Illuminating Co. will begin work on their underground system in

the summer, but as we can hear everything, we will not expect anything until we actually see the work begun.

I think work on the Washington & Baltimore Boulevard railroad will begin very soon as the contract for the power house has already been awarded. Of course the electric work will follow very soon. The Western Electric Co. has the contract for the machinery.

No. 27 is watching the progress of the New York locals with a great deal of interest, knowing that in union there is strength, and hoping that it will be a great benefit to each and every member of the Brotherhood.

I think if the cold weather does not permanently freeze the boys up, Local 27 will have a full attendance at the meetings very soon, as we have a black-board on which to display our brilliancy in illustrating electrical machinery, and I tell you that No. 27 has got a good supply of such talent.

Now, asking to be excused of all errors and mistakes, I will open the switch before I consume more than 2,000 watts, which is my limit.

CHAS. P. TAYLOR, *Press Secretary.*

#### BALTIMORE, MD.

##### *Editor Electrical Worker:*

The cathode ray is making a series of developments which in surgery will locate broken bones and lost bullets, as well as empty pocket-books and stomachs, when you are on the road, like a fire-escape in a cheap boarding-house. It will have its defects as well as effects. The cathode ray will tell what part of a man's brain is working next; it may prove phrenology to be a science and relieve an embarrassment that now exists in some peoples' minds. It will detect flaws in Carnegie's armor plate, as well as to look in the canon's mouth and tell when it is loaded. It will tell when a lineman is looking up the line, spotting all the high ones so as to drop one and let the next man catch it. It is claimed that hydrophobia can be cured by the cathode ray, by killing the bacteria. Koch's lymph is set aside, as it will cure consumption, bronchitis and other diseases. It will aid the botanist to locate plant germs. It will be to the miner a "lost cabin claim" found. He can tell the chlorides from the phosphates, and his argument that "Nature hates a vacuum" is a lost cause. For insects, whether on your person or in their natural bodies, it will prove a boon to society. The cathode ray will raise a sleeper, whether his foot is moving on a park row bench or in a drunken slumber. It will tell if you are running against a pair of deuces or a full hand.

HENRY HATT.

#### LOUISVILLE, KY.

##### *Editor Electrical Worker:*

Having been elected Press Secretary at our last meeting, and not being much of a correspondent, the boys will have to overlook any errors I may make. Electrical news is like work here, very hard to find. The street railway is stringing trolley on Seventh, Twelfth and Fifteenth streets.

Bros. Norton and Bruce have returned from Roadstown, whither they have been for three months. At our last meeting we had quite an interesting time with Bro. Podell, of No. 15, as a visitor. I would like to say that the latch string is always out for visiting brothers. I often meet some of our visiting brothers, but they never seem to have time to come to our meeting. We will not kill you!

I fear before spring some of our boys will have to emigrate if more work does not turn up. At last the boys are beginning to take an interest in the meetings, as there were six applications received last meeting.

For fear of blowing the fuse, I will pull the switch.

W. A. PULLIAM, *Press Secretary.*

E. S. Not getting any WORKER in January leads me to ask if our subscription had run out.

#### ATLANTA, GA.

##### *Editor Electrical Worker:*

Our Treasurer, Frank S. Moore, has skipped out with part of the funds of our Union, and we ask our brothers through the country to be on the lookout for him. He was formerly a member of No. 3, of New York, but came to this city to work on the Exposition, joined our Union and took an active interest in its welfare and was well thought of by the members. He was working for a local contractor, who went on his bond.

Moore got away with about \$175, as follows: \$65 belonging to Union No. 29, \$75 from the man he was working for, and \$35 from an exhibitor at the Exposition. He was heard from in New Orleans and we wrote to that city to have him arrested, but have received no answer yet.

Moore is a small man, about forty years of age, has black hair and mustache, mixed with gray, and in walking has a short, quick step and walks very fast. In talking, he is very nervous, and repeats his words often. He can never look a man in the face in conversation, and is always telling how No. 3 of New York is managed, and we now rise to ask if he includes skipping out with funds as a part of the management he so often referred to.

Should any of our brothers through the country locate him, please communicate immediately with our President, Bro. Geo. F. Foster, 100 Walker street. Owing to some technicality, we may not be able to collect the amount from his bondsman.

UNION No. 29.

#### BROOKLYN, N. Y.

##### *Editor Electrical Worker:*

I am pleased to state that Local No. 34 was reorganized December 16, 1895, by Grand Secretary-Treasurer J. T. Kelly, with 45 members as a mixed Local, and since that time we have grown steadily, and at present time number nearly 100 members. We have instilled new blood in the offices, and have at the present time a set of officers that are a credit to us, and to the Brotherhood at large, and our business is conducted on a good basis and bound to meet the approval of every law-abiding member.

We are going to give our members a good social time in addition to routine business, when they attend the meetings, and will introduce from time to time some of the very good talent that Brooklyn is noted for. We believe that in order to insure a good attendance every Local should do this, and the members would look forward to the time of meeting with a great deal of pleasure.

At our two last meetings, we initiated eleven and nineteen men respectively, and have a number of propositions to state at our next meeting. We meet at 360 Fulton street, Peters' Hall, second and fourth Friday, and cordially invite visiting brothers to attend when they should be in our vicinity.

We have all had plenty of work, and were unable at the first of the month to supply the demand for wiremen and first-class helpers. A good number of our men who had been doing line work, are doing inside work, and for the spring the outlook is very bright.

H. A. LATHAM, *Press Secretary.*

#### CLEVELAND, O.

##### *Editor Electrical Worker:*

Well, as quite a few of my brother members approached me (after they had read their February Journal) with this remark: "What's the matter with you, kid? Run out of wick? Did not see anything in the Journal from No. 38." Well, brothers, as there are a few that do not attend meetings regularly, I will have to excuse them as they do not know that I was not elected Press Secretary, as I thought I had about all I could attend to without that. But as our Press Secretary was elected against his will, and still insists that he cannot attend to it, I will write a few lines for our next Journal. At our next meet-

ing I will see what kind of an arc we can get for Press Secretary.

Well, electrical business is just about fair here now. One of our brothers was laid off this morning from the Electric Light Co. We have two brothers out of work at present, but things look bright for us pole climbers this spring, as the Home Telephone Co. got its franchise last month. They have ninety days to make a start, and must have six hundred telephones in working order inside of six months. I have heard that three more suburban roads were coming into Cleveland this summer.

Our Big and Little Consolidated street railroads are going to come together and make one big road. The Electric Light Co. has got lots of work to do, just as soon as the weather will permit.

Now, brothers, No. 38 wants all who come here this summer to have their back dues paid up and have traveling cards in their pockets, so they can deposit them with No. 38 without delay, and all electrical workers who are not brothers, come prepared to take an application as soon as you meet a Union man from 38, and you can run into one of them when you least expect, and they will all have plenty of applications, for I heard it said they were going to keep an eye on all electrical workers who come to Cleveland this summer.

Jas. Scott, ex-member of old No. 16 has stepped into Mr. Fuller's place as general foreman for the Big Consolidated Street Railroad Co. It is too bad he does not belong to No. 38, but never mind, he is a union man just the same. Mr. Fuller who has been connected with the street car company for a number of years, has taken a position as general manager for an electric constructing company.

The Western Union Telegraph Co. has just about completed its underground work here. I did not get the number of miles of wire they put under, but it is a good many.

Bro. Cunningham, one of the electric light line-men, went up to "Nigger Alley" (not Paradise) back of the medical college the other night, to repair a break. As he is pretty well acquainted in that neighborhood he had no trouble finding it was in the lamp. He got it going O. K. and just got it tied up when he saw some big black thing laying in the center of the alley. Well, he was all out of breath and white as a sheet when he reached the station, and all he would say, was: "I won't go there any more." He has changed on to day work now. Well, I guess I will have to take French leave from the city before he sees this, or else he will throw me in the loop.

Well, as I have had her on seven notches for the last hour, I must be near the end of the road, so I will throw her off and let her stand till time to make the next trip.

B. F. MURRIN, *Acting Press Secretary.*

#### PROVIDENCE, R. I.

##### *Editor Electrical Worker:*

As I have made my test and found the circuit O. K., I will now let the mysterious current flow for the month of March. The boys are kept busy this winter, although there is nothing going on to rush very much; just enough to keep them at work, and that is all they look for. The Providence Telephone Co. have about twenty-five men looking out for their part of the work. They have been running cables and taking down dead wire this winter, but when spring comes, they will have to get out and rebuild their lines from Wickford to Narragansett Pier, a distance of about fifteen miles. They will then start on the Hope Valley line, and put up new work there.

The Narragansett Electric Light Co. have a large force of men at work this winter. John Furlong, a lineman employed by this company, had a very close call a few days ago; while at work on Cranston street, he received a severe shock, which threw him off the pole. He fell about thirty feet, striking on the pavement. He fractured his hip and received internal injuries, from which he may never recover. John is not a



member of our Union, but he is a good fellow and the father of several small children, and I am sure he has the sympathy of all electrical workers.

Your humble servant had a genuine surprise party dropped on him on the fourteenth by his friends. As he answered a ring at the door bell, he was strack dumb when he saw about sixty people file into the house. He thought at first they were White Caps from Ohio, but as he returned from the door, he was presented with an elegant and costly lamp. The speech was given in an able manner by John Campbell; four pieces of music were brought along, and they were soon dancing. Refreshments were served at twelve, and then we went at it again. I assure you we had a grand time; quite a few of our workers were among the crowd.

Bro. Joe Hughes has been paying for our cigars this week. Joe being tired of singleness, decided to take unto himself a wife; he was united in marriage to an estimable young lady of Olneyville, on the thirteenth. He has the best wishes of his many friends.

Local No. 39 held their annual ball January 27th, at B. T. Hall. Any event that takes place under the auspices of 39, needs no guarantee of success, for whatever the members of that organization have to perform, they always carry it through in a first-class manner. Previous successes were nothing in comparison with our third annual ball. The scene that was made up of the large and handsomely costumed assembly, composing much of the youth, beauty and intelligence of the city and also the State, moving gracefully through the hall, was one to deeply admire and long remember, for ball-room attractions are indeed few that surpass that of which I speak. Lamps, well yes, just a few sparks, flashes, fire or anything that would give light, was brought into active use. Bro. Mark L. Carder did noble work at the door, and Bro. John Barry had charge of the oil department. The committee was composed of the following names: Geo. D. Higgins, Chairman, J. L. Moran, Vincent Grant, H. B. Kelly, P. McDonald. Floor Director, H. B. Kelly; Assistant, Vincent Grant. Aids, E. J. Brophy, H. H. Swan, F. A. Gardner, W. H. Morey, D. J. Spellman.

I think it about time for a few of our Press Secretaries to drop onto themselves. We are trying to hold together a labor organization composed of eighty-one good Locals, but still I fail to find reports from more than twenty-five in any copy of the Journal that I may pick up. Now, Mr. Editor, I think it would be a good idea for you to drum them up once in awhile, or I will have to put on my war paint and gather in a few locks of hair from your scalp.

Neil Cameron, a lineman employed in Pawtucket for the Telephone company, fell from a tree on the eighteenth, a distance of twenty feet, and received a severe shaking up. We hope he will be around in a few days.

I sincerely hope I will have no more accidents to report, while my name is

D. J. SPELLMAN, *Press Secretary.*

ST. JOSEPH, MO.

*Editor Electrical Worker:*

No. 40 has not been heard from for some time, and we have nothing to attribute it to, but the same old cause, carelessness; we are now cleared up, and expect to be properly illuminated in the WORKER hereafter.

Our new Citizens Telephone Co. are doing a land office business, having now over 500 phones in, and receiving orders for more every day. The M. & K. Telephone Co. have begun operations on their new exchange building, which bids fair to be the cracker-jack of the West.

Matters are somewhat complicated now at our city plant. Our city electrician, P. P. Yenawine, has found cause to tender his resignation, and there are only about twenty aspirants for the position, including electrical workers, machinists,

and coal haulers. It is rumored that the St. Joseph Light, Heat and Power Co. has offered to purchase the city plant for the sum of \$30,000, and furnish light for the city at the rate of \$85.00 per lamp for first year, and \$65.00 per lamp per year for the succeeding ten years. The proposition has not yet been accepted.

J. Dobson, foreman for the W. U. Tel. Co. has a crew of ten men rebuilding the town of Leavenworth, and stringing cable across the new bridge at that point.

We would like to know the whereabouts of J. Stewart, the genial general foreman of the W. U. Tel. Co. When last heard from he was perambulating up and down the coast of Mexico with an armful of telegraph poles and a coil of wire trying to find a spot of earth over which our uncle Samuel and the powers that be in Mexico had no jurisdiction. He had a pair of prize fighters and some other sports in tow. Judging from the irregular and totally irresponsible reports that came from the alleged prize fight, he must have found it.

We would also like to know the whereabouts of one ex-brother, Harry Miles, who floated in here about a year ago and joined the Union. He got sick before he was entitled to any benefits, but the boys went to his rescue just the same, to the amount of about \$75.00 for board, doctor bill, etc. When he got well, he flew the coop and has played the sneak ever since, not even writing to brothers that helped him out personally.

Our Trades Council is doing good work, and have now a movement on foot to erect a new Public Library building of the modern type. They have adopted resolutions to support only those who at the next city election are in favor of the proposition.

At our recent election of officers, the following were elected and installed: R. M. Martin, President; J. Bartlett, Vice-President; Wm. Dorsel, Recording Secretary; J. C. Schneider, Financial Secretary; T. H. Stuart, Inspector; Wm. Gorton, Foreman; F. P. Johnson, Treasurer; Trustees, John Webb, H. Peery; Delegates to Trades Council, C. Schultz, Wm. Dorsel and H. T. Sullivan. The duties of Press Secretary were imposed upon one who is not on to his job.

We will break away now, till we meet again in round No. 2 next month.

H. T. SULLIVAN, *Press Secretary.*

BUFFALO, N. Y.

*Editor Electrical Worker:*

I suppose that by this time most of the brothers are aware that there has been a strike on the big Ellicott Square building, now being erected here. Well, I am happy to say that the strike is off, and that all of the different trades concerned in the strike, the boys of Local 45, are most to be congratulated on the outcome of the affair. Some six weeks or more ago we made a determined effort to thoroughly unionize the job. At first we met with a great deal of opposition, both from the men and from their foremen and superintendents. At last, however, we succeeded in getting all of the men in but one, and he said most decidedly that he would walk back to Chicago (where he came from) before would join us. We worked our hardest to get him in, but we saw that it was useless. Added to that, the other wiremen on the job had not received a cent since the 28th of December. When Brother Scott made a stand for his money he got it—and also his discharge. There had been trouble brewing among the ironworkers, housesmiths, and steamfitters as to the employment of non-union men. Also the ironworkers' foremen were working laborers in mechanics' places and paying them only 15 cents per hour, while the union rate is a minimum of 25 cents per hour. The whole matter was brought to a climax when the superintendent of the building refused to allow any of the walking delegates in the building.

The United Trades and Labor Council of this city decided to call a general strike, and the men walked out on Thursday morning, February 13th. A conference was had with Mr. Kibby, the building superintendent, and he refused decidedly to grant a single concession.

Two more conferences were had, and on February 15th Mr. Kibby practically gave in. He said that the delegates would be allowed in the building at the dinner hour and that all other grievances would be adjusted by him as soon as we laid the matter before him.

A meeting of delegates was held at Council Hall on Sunday, February 16th, and it was agreed to accept Mr. Kibby's proposition and declare the strike off. A committee was appointed to wait on Mr. Kibby and inform him of our decision. The committee accordingly did so upon the following morning, and the men were ordered back to work at noon. Matters at this writing are rapidly assuming shape and everything is satisfactory. As to the electrical workers, we got a great deal more than we expected. While the boys were out on strike, the superintendent of the wiremen, Staley, hired two more scabs in addition to the man who refused to join us in the first place, Murphy by name. When the strike was declared off they were fired, and all of our boys went back. Murphy is now on his way to Chicago, and, as the weather has been rather cold, his feet must be frozen by this time. The walking is bad, and we will trust to our boys of No. 9 to give him a warm reception should he try his tricks in Chicago. He will arrive about the middle of July if he keeps on walking.

Our boys got their back pay up to date, and are to be paid weekly hereafter and none but union men allowed on the job. The foreman was bounced also, and Brother Riddle is now chief of the wire-jerkers in that building. So, brethren, take off your hats and give a loud hurrah for Local 45, for we are still going up the ladder.

Our brothers of Local 44 are all right, but it is a pity such a bright lot of men are obliged to live in a "way-back" town where not even a ploughshare can be had until the article is manufactured and sent from Buffalo. It is but recently they were obliged to come to this city to have made for one of their men a duplicate of Brother Fosssett's famous badge which was presented him for selling the greatest number of tickets to our picnic last summer. However, this shows that our fellow-workers of Rochester have an eye to the beautiful and know a good thing when they see it.

I wish to call the attention of the workers to the importance of connecting themselves with the United Trades and Builders' Councils, as they will stick to you through thick and thin as they have done with us. When contracts on large buildings are taken to be finished at a certain time the contractors cannot afford to antagonize any of the trades, as they forfeit large sums for every day they run over the time.

Affairs of No. 45 are again running smoothly, and we hope they will continue to do so. We took in five new members at our last meeting.

Too much praise cannot be lavished upon our executive committee and walking delegates for their untiring labors during the recent unpleasantness. They were constantly at their posts. All the boys are working now save a few.

The Niagara Falls Construction and Power Company have given the contract for 2,000 poles for the line which is to bring their power to Buffalo, to Thomas Barnard, formerly superintendent construction for the Western Union.

WM. H. KELLY, *Press Secretary.*

BLOOMINGTON, ILL.

*Editor Electrical Worker:*

Having been elected to fill the very difficult position of Corresponding Secretary, I will try to give the brothers who were formerly members of No. 49 what little news the city affords.

We hear from Bro. Jack Carroll, at Ada, Mich., wishing to pay dues and keep in good standing, but he does not say what he is doing. One of our old members, Bro. Tom Gilroy, was through here lately, bound for Chicago.

One of the best members we have in our Union is Bro. John Hitt. Although he is entirely deaf (owing to a sad accident some years ago), he can talk, and has done as much or more towards bringing the members closer together than any member we ever had, and all the members have the highest regard for him for the untiring energy he displays in working for the Union.

We expect some new members before the first of March, three of which will probably be our former members, Bros. Scogin, Montgomery and Burgett. Bloomington has a great many wires and poles for a city of its size (as every one knows who has been here), and there being so many wires, etc., there is considerable construction which might be called "funny," but the "funniest" thing I have seen is on the "junction pole" of the Bloomington Light and Power Co. I do not know what it is, but it resembles a small dog house, or maybe it is for bluebirds when they come next spring. I've guessed a good many times, but Bro. Butler will not tell me why he put it up there. Now, if any of the boys come to our town and see it, I refer you to Bro. Butler, at his office, 102 and 103 First National Bank building.

E. E. HIGGINS, *Press Secretary.*

#### HARRISBURG, PA.

##### *Editor Electrical Worker:*

Well, gentlemen and brothers, here we are again, still on top and glad that we are living to enjoy this world's comforts and sorrows with the rest of our human beings.

Though electric business is not very flourishing with us at the present time, yet we have enough to keep us moving or at least keep our hands in. Bro. Cassel is running the two 500-horse-power engines for the Harrisburg Traction Co. He also spent a week in Reading repairing armatures for the street railway people in that city. He gives quite an amusing story in regards to the way they run their plant in that section of the country; but, brothers, it wouldn't look well for me to go into details and give it for publication, as you might think such things were impossible, yet they are facts, and I have no doubt but that there are more places where they do the same things, and probably still worse than at Reading.

I have been looking for a letter from our worthy Grand President ever since I returned from the Convention, but as yet I haven't received any, and neither has he fulfilled his promise. Hope to hear from you, Bro. Sherman; do not fear, I will answer it.

This being my off night, I will throw the switch and get.

R. E. BLEYER, *Press Secretary.*

#### GALVESTON, TEX.

##### *Editor Electrical Worker:*

As it has become my duty to represent No. 71 in the WORKER, I will endeavor to do so. I wish to state that at present there are several brothers idle, and not much prospects ahead, as the city is pretty well wired for lighting, although there are several buildings under headway, but all are small.

The telephone company is doing lots of work, building all new lines, and also a new exchange, using all copper wire, which will be a big improvement to Galveston when it is completed.

Up to this writing we have had no sickness, and I am glad to be able to say so.

Hoping there will be more news the next time I write, I will close for the present.

A. V. DELPRAISS, *Press Secretary.*

#### SPOKANE, WASH.

##### *Editor Electrical Worker:*

It never rains but what it pours. All the amendments carried. Wouldn't that jar you? I am surprised to hear that there are so many

fickle-minded men in the Brotherhood, as to let Sec. 1 of Art. VI pass without a murmur as our editor says it was. The fellow who first proposed that, must be a ladies' man, a kind of a soft-headed lightning chaser full of short circuits. I never saw but one of those fellows and he is in the Medical Lake Insane Asylum. Now, I would like to have some one tell me what benefit a woman will ever be to a labor organization? I have asked every one that I know. The answer I get is: "The idea of a woman in a secret society! why it is awful, what ignorance, and so many free schools in existence."

"Freedom through Organization," one of our mottoes. Paid \$5.00 to have it framed and now to have to turn it toward the wall! If these fair creatures are admitted, they will have to hold office, then the brick will fall. Oh, God, deliver us from being ruled by a woman. I suppose the editor of our little paper will have to run a matrimonial bureau in connection with his paper, which would be the only nice point about it. As for the rest of the amendments, we think we could make them a little better, but on the whole, we are well satisfied.

Bro. T. H. Denter has secured the contract for the wiring of the State Normal School at Cheany. He also has the wiring of twenty dwelling houses in Heath's Addition. Bro. Denter is a hustler and we all wish him success.

Bro. R. F. Harper is studying law in Judge Holmes' Court. Bro. C. H. Causey has been running a skating rink this winter, but they are picking buttercups now where the ice was, although Charles says he did have a few days skating.

Bro. L. M. McGuire has the shanty off his eye and is looking quite like himself again, but says he won't go out with Riley any more. Will tell you about the rest of us another time.

C. C. VANINWEGEN, *Press Secretary.*

#### SAGINAW, MICH.

##### *Editor Electrical Worker:*

This being my first attempt at letter writing publicly, I feel somewhat nervous, but as a starter I am happy to state that our circuit had to be fused for a heavier current, as we installed three additional lights, and every one of them was up to candle-power. No. 78 is all right financially, electrically and socially, a sort of a tri-phase combination, which we have found works immense in unionism. Of course we have had our trials, but have overcome them, and we have had delinquent members and disposed of them. Our method is short in dealing with a member who is behind in his dues; I mean a member who is working steady, but neglects his payments. We simply allow him his prescribed time to pay his dues, and if he fails to meet his obligation, he is promptly expelled and a miniature declaration of independence is drawn up between the Union and the renegade.

It might be of interest to some of the brothers to know the secret of our success; attraction is the term that defines our success; our room may be called a permanent magnet. It has an influence for attracting the members every week and at times when they ought to be at church. Our room is comfortably carpeted, heated and lighted by electricity, all kinds of electrical instruments for experimental work; every branch of the trade is represented in our electrical discussions. Four of the brothers are taking a course in electricity with the National School of Electricity, which by the way is a first-class thing for any brother to take, even if the Union had to pay the expenses for same; each lesson is in pamphlet form and could be discussed before the entire Union.

Bro. John Strachan, our Recording Secretary, is quite enthusiastic on the cathode rays. His experiments have proven correct to a certain extent, but his devotion to experimental work was taxed the other day when one of the boys asked him which he would prefer, the cathode

rays or a raise in his salary; it is useless to state that John is after the money just as natural as we are ourselves.

As it is customary for each Press Secretary to throw a switch at the finish of a letter, you will have to consider mine thrown, and oblige,

JAS. NIVEN, *Press Secretary.*

#### JACKSONVILLE, FLA.

##### *Editor Electrical Worker:*

A few words from the sunny South, and if they reach you in time, transpose them and give to the boys what little is left. Our February Journal was a good one, especially the greetings of our worthy Grand President. They are the true sentiments of unionism and should be read and considered by each and every one of us. Let us, then, ask ourselves if we are acting in that spirit, and I'm afraid that the majority will only be able to shake their heads. His words are words of wisdom and should be the feelings of every worker for his fellow. With such a man at our head, and with his principles as our own, it only shows that we have honored ourselves in honoring him.

Work here has livened up a little. The opposition to the Bell people has become a reality, and if their claims to subscribers are true, they will have the entire business. They, I'm sorry to state, are paying very little wages. The Bell people are also on the ground with about ten men. Their scale of wages is some better, \$50 and \$45 per month, so you guess at the others. There are in the push two of our brothers from No. 29 who I'm sorry to state are a little out of line with their cards. Now, brothers, let us all get in the band wagon and pay for the music, and I'm sure you will all enjoy the ride better.

I'm sorry to have to state, in conclusion, that we have failed to organize here. We have talked and held several meetings with no success. Several of our prospective brothers are willing until the call of time, when they are not in it; but as the old saying goes, "Try, try, again" fits this case, when the brothers of No. 29 get their cards, there may be more talk. Yours from the sunny South, E. J. McDONNELL.

#### VILLALOBAS, MEXICO.

##### *Editor Electrical Worker:*

As I see it is permissible for others besides the Press Secretaries to be heard from through the WORKER, I thought I would write a few lines myself, although no letter writer. I have been on this corner of earth since May 20, 1895, and like some things here, especially the climate, first-rate. There has been no material change in the weather since I have been in the country. I have seen but one light frost this winter, and strawberries are in season all the time, and I must say I like them better than the snow-balls I got last winter in Illinois. I am pushing a gang for the Central Mexicano Railroad Co. My gang are all natives, and as I cannot as yet speak much of the language, I have become pretty proficient in making signs. As they can get natives for about half what it costs an American to live, they work them at everything they can. My hole shooters get only 75 cents per day, Mexican money, and that is about three times as much as they could get from private parties. There is not as yet much electrical work in this country, but some of the larger cities are talking of putting in electric lines, but they move very slow in this country.

Bro. John Thompson of No. 9 is holding down a division for this company at Chihuahua. He came down in October. Bro. Harry Merrill is repairing at Aguas Calientes. I have forgotten what lodge he belongs to, but he had an up-to-date card when he came, so I helped him get a job. I guess they will both hold it down until spring.

There are several brothers belonging to different locals throughout the country who know me, and it would not make me angry if some or all of them would write to me, as any news from the States is appreciated by an American in this country. If any of them are kind enough to write to me just direct care E. E. Styner, Superintendent Mexican Central Railroad, Silav, Mexico. Put on a 2-cent stamp and I will get it.

S. W. McCRACKEN.

## Directory of Local Unions.

(Secretaries will please furnish the necessary information to make this directory complete. Note that the time and place of meeting, the name of the President, the names and addresses of the Recording and Financial Secretaries are required.)

No. 1, St. Louis, Mo.—Meets 1st and 3rd Wednesdays at Hall 1, s. e. cor. Eleventh street and Franklin avenue. Chas. Be Mar. Pres. 245 Carr st.; W. S. Peckles, R. S., 517 Wells ave.; Jas. Gallagher, F. S., 260 Dickson st.

No. 2, Milwaukee, Wis.—Meets 2d and 4th Wednesdays at Miner's Hall, 304 W. Water st. M. J. Quirk, Pres. 87 27th st.; A. F. Marquardt, R. S., 730 17th st.; Geo. Pochmann, F. S., 647 24th st.

No. 3, Denver, Col.—F. J. Layne, Pres., 1011 19th st.; Geo. P. Manning, Sec'y, 1631 Lawrence st.

No. 4, New Orleans, La.—Meets 1st and 3d Tuesdays at Cammiller's Perido st. J. McGregor, Pres., 2111 Roussem st.; C. M. Hale, R. S., 630 St. Mary st.; R. B. Joyce, F. S., 331 S. Basin st.

No. 5, New York City, N. Y.—Meets every Thursday at 85 E. 4th st. John F. Bergen, Pres., 521 Henry st., Brooklyn; W. E. McGowan, Jr., R. S., 165 Lafayette st., Newark, N. J.; M. E. Bergen, F. S., 315 Henry st., Brooklyn.

No. 6, San Francisco, Cal.—Meets 2d and 4th Wednesdays at Forester's Hall, 23 Eddy st. E. Rush, Pres., room 3 2nd 4th st.; Geo. W. Frost, R. S., 6423 Natoma st.; W. N. Manning, F. S., R. 12, 109 5th st.

No. 7, Springfield, Mass.—Meets first and third Mondays at Winkler's Hall, Bridge street. J. P. Maloney, Pres., 325 High st.; Holyoke, H. B. Rust, R. S., Hotel Gilmore, P. C. Fitzpatrick, F. S., 23 Taylor st.

No. 8, Toledo, O.—Meets every Tuesday at Friendship Hall, cor. Jefferson and Summit sts. J. E. Rhorbough, Pres., care of C. C. Tel. Co.; Wm. Callahan, R. S., 910 Vinton st.; J. W. Gramsch, F. S., 227 Jerome st.

No. 9, Chicago, Ill.—Meets every Saturday at 184 E. Madison st. W. P. Hartz, Pres., 329 W. Harrison st.; W. M. Stockwell, R. S., 184 Madison st.; H. Knapp, F. S., 67 Edison avenue.

No. 10, Indianapolis, Ind.—Meets 1st and 3rd Monday at 294 W. Pearl st. C. A. Hayes, Pres., 66 College ave.; W. O. Dudley, R. S., 124 E. Ohio st.; J. L. Ellis, F. S., 304 Union st.

No. 11, Terre Haute, Ind.—Meets 2d and 4th Tuesdays at 8th and Main sts. C. D. Updegraff, Pres., 329 S. Ninth st.; M. Davis, R. S., 918 N. 9th st.; W. H. Schaefer, F. S., 114 N. 14th.

No. 12, Evansville, Ind.—Meets every Tuesday at cor. 3rd and Symcamer st. Harry Fisher, Pres., 200 Clark st.; A. L. Swanson, R. S., 1054 Water st.; A. N. Grant, F. S., 202 Clark st.

No. 14, Memphis, Tenn.—C. E. Potter, Pres., 292 Front st.; J. A. Miles, Sec'y, 207 De Soto st.

No. 15, Philadelphia, Pa.—Meets every Tuesday at 711 Spring Garden st. W. D. Smith, Pres., 254 Chester st.; Walter Hossain, R. S., 142 Lehigh av.; H. C. Rawlins, F. S., 254 Chester.

No. 16, Lynn, Mass.—Meet at General Electric Band Room, 94 South st. Jas. Robson, Pres., 46 W. Neptune st.; C. W. Perkins, R. S., 8 Allen's Court; E. J. Malloy, F. S., 86 Cottage st.

No. 17, Detroit, Mich.—Meets first and third Thursdays at Trades' Council Hall, 221 Randolph st. Jas. Runkle, Pres., 299 1st st.; F. Campbell, R. S., 435 Abbott st.; J. G. Forbes, F. S., 75 Milwaukee ave. W.

No. 18, Kansas City, Mo.—Meets every Friday at 1015 Walnut st. W. L. Hanchison, Pres., 1242 Broadway; D. C. Sprecher, R. S., 1228 McGee st.; W. L. Youngerman, F. S., 420 E. 5th st.

No. 20, New Haven, Conn.—Meets first and last Saturdays at Trades' Council Hall. M. McCarthy, Pres., 190 Meadow st.; A. Nelson, R. S., Box 1221; Phil. W. Riley, F. S., 69 Main st.

No. 21, Wheeling, W. Va.—Meets first and third Tuesdays at Trades' Assembly Hall. H. F. Wyse, Pres., Box 111; C. L. Oillery, R. S., Box 111; W. J. Clark, F. S., McCleure House.

No. 22, Omaha, Neb.—Meets every Friday at Temple, J. S. Tobias, Pres., 1615 Locust st.; R. Kincaid, R. S., 223 N. 56th st.; J. W. Waters, F. S., 221 Pierce st.

No. 23, St. Paul, Minn.—Meets second and fourth Fridays at Labor Hall, 2nd and Wabasha sts. Jno. O'Donnell, Pres., 4th & Wabasha sts.; Thos. O'Toole, R. S., 333 E. 6th st.; E. Volk, F. S., 166 W. 9th st.

No. 24, Minneapolis, Minn.—Meets 1st and 3rd Wednesdays at 34 and 6th st. S. Geo. Heilig, Pres., 18 9th st.; L. E. Stevens, R. S., 26 Western ave.; A. Anne, F. S., 3129 Longfellow ave.

No. 25, Duluth, Minn.—Meets 2d and 4th Thursdays at Rooms Banning Bldg. R. Thayer, Pres., 25th ave. W. & 1st st.; A. A. Schulte, R. S., Room 18 Norris Block; L. P. Runkle, F. S., Room 17 Norris Block.

No. 26, Washington, D. C.—Meets every Friday at 827 7th st. N. W. G. A. Malone, Pres., 481 st. N. W.; D. H. Carr, R. S., 601 E. Capitol st.; R. F. Metzel, F. S., 509 11th st. N. W.

No. 27, Baltimore, Md.—Meets every Monday at Hall, cor. Fayette and Park avs. F. H. Wissinger, Pres., 757 W. Fayette st.; F. P. Jones, R. S., 1601 W. Franklin st.; F. H. Russell, F. S., 148 Asquith st.

No. 28, Louisville, Ky.—Meets first and third Tuesdays at Beck Hall, 1st near Jefferson st. Calvin Beach, Pres., 1020 W. Market st.; Ed. Herpt, R. S., 607 Magnolia st.; Jno. C. Deibel, F. S., 418 Fifteenth st.

No. 29, Atlanta, Ga.—Meets every Sunday at 610 Alameda st. Geo. Foster, Pres., 100 Walker st.; D. J. Kerr, R. S., 115 Richardson st.; Geo. Raymer, F. S., 121 Rhodes st.

No. 30, Cincinnati, O.—Meets 1st and 3d Mondays at 136 E. Court st. W. Williams, Pres., 405 Broadway; H. C. Genrich, R. S., 412 Broadway; J. F. Harmuth, F. S., rear 141 E. Clifton ave.

No. 31, Jersey City, N. J.—Meets every Friday at 26 Newark ave. Thos. Watson, Pres., 213 Newark ave.; F. J. Anderson, R. S., 73 Sussex st.; T. L. Jones, F. S., 36 Wayne st.

No. 32, Paterson, N. J.—Meets 1st and 3rd Mondays at German Union Hall. J. F. Colvin, Pres., 93 Madison ave.; Jas. Maher, R. S., 348 Grand st.; Paterson Heights, Paterson, N. J.; John Kane, F. S., 24 Hamilton ave.

No. 33, Newark, N. J.—Meets every Monday evening at No. 33 Williams st. W. J. Curtis, Pres., 12 Beach street; J. M. Eder, R. S., 180 Market st.; W. K. Rosseter, F. S., 175 Sherman ave.

No. 34, Brooklyn, N. Y.—Meets 2d and 4th Fridays at Peter's Hall, 30 Fulton st. E. W. Latham, Pres., 151 Gates ave.; G. H. Collins, R. S., 81 St. Mark's pl.; G. A. Paice, F. S., 337 Knickerbocker st.

No. 35, Boston, Mass.—Meets 1st and 3rd Wednesdays at Well's Memorial Hall, 97 Washington st. M. Birmingham, President, 60 Duxton st.; Alliston; K. Colvin, R. S., 26 Lexington st.; Waltham; J. Bateman, F. S., 2 Pine Place.

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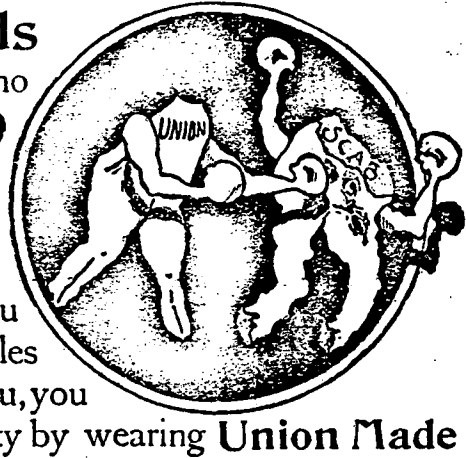


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No. 36, New York City, N. Y.—Meets first and third Thursdays at Military Hall, 193 Boverly. Jno. Ryan, Pres., 438 E. 90th st.; A. H. Moses, Jr., R. S., 134 E. 87th st.; J. P. Casey, F. S., 439 E. 79th street.

No. 37, Hartford, Conn.—Meets first and third Fridays at Central Union Labor Hall, 11 Central Row. M. F. Owens, Pres., 63 Hawthorne st.; D. P. Cronin, R. S., 49 Windsor st.; C. E. Byrne, F. S., 16 John st.

No. 38, Cleveland, O.—Meets every Thursday at Room 10, 158 Superior st. W. Cunningham, Pres., 4094 Ontario st. B. F. Murrin, R. S., 288 Waverly ave.; H. T. Race, F. S., 157 Marvin ave.

No. 39, Providence, R. I.—Meets 1st and 3rd Mondays at Phoenix Bldg., 157 Westminster st. H. B. Kelly, Pres., 1950 Westminster st.; M. L. Carder, R. S., 40 Wilson st.; G. D. Higgins, F. S., 8 Carpenter st.

No. 40, St. Joseph, Mo.—Meets every Monday at north-west corner 8th and Locust sts. "Brookway's Hall." R. M. Martin, Pres., 1702 N. 3d st.; Wm. Dorsel, Rec. Sec., 1708 Calhoun st.; J. C. Schneider, Fin. Sec., 808 S. 5th st.

No. 41, Philadelphia, Pa.—Meets every Thursday at N. E. Cor. 8th and Callowhill sts. Geo. A. Neal, Pres., 3626 Wharton st.; C. W. Elliott, R. S., 1721 Stillman st.; W. C. Fisher, F. S., 284 Park ave.

No. 42, Utica, N. Y.—Meets second and fourth Tuesdays at Room 5, Western Union Building. L. S. Ward, President, Room 5, Western Union Building; E. S. Allen, Recording Secretary, Room 5, Western Union Building; C. Richardson, F. S., Room 5, Western Union Building.

No. 43, Dayton, O.—J. J. McCarty, Pres., care of 5th st. R. Co.; A. E. Williams, Rec. Sec., 1135 W. 3d st.; F. DeWitt, Fin. Sec., 311 W. 3d st.

No. 44, Rochester, N. Y.—T. J. Keegan, Pres., 76 Oak st. John Riley, R. S., 398 Plymouth ave.; J. E. Thistle, F. S., 90 Prospect st.

No. 45, Buffalo, N. Y.—Meets 1st and 3rd Saturdays at 512 Washington st. Wm. Haley, Pres., 21 Terrace st.; C. E. Judson, R. S., 10 E. Eagle st.; H. L. Mack, F. S., 867 Washington st.

No. 46, Reading, Pa.—Lucian Bowman, President; Harry Weidner, Recording Secretary, 225 Pearl street; W. S. Hoffman, Financial Secretary, 109 Peach street.

No. 47, Boston, Mass.—Meets every 2nd & 4th Thursday at 97 Washington st. E. C. McCarthy, Pres., 192 Eustis st.; Roxbury; A. E. Gibbons, R. S., 82 Bartlett st.; Charlestown; W. H. Nichols, F. S., Pleasant st., Roxbury.

No. 48, Sedalia, Mo.—Meets every Thursday at Second and Ohio streets. C. E. Jackson, President; C. C. Ballard, Recording Secretary, 23 Vermont avenue; Ed. McCoy, Financial Secretary, 1210 E. Eleventh street.

No. 49, Bloomington, Ill.—Meets 1st and 3d Wednesdays at Trades' Assembly Hall. C. F. Snyder, Pres., Box 1015; W. C. Gorey, R. S., 409 S. Madison st.; W. F. Witty, F. S., 421 N. Madison st.

No. 50, Birmingham, Ala.—Meets first and third Fridays at 301 20th ave. C. L. Montgomery, Pres., 620 18th st.; T. A. Thompson, R. S., 2020 10th ave.; P. P. Beatty, F. S., 311 20th street.

No. 51, Scranton, Pa.—Jas. Harding, Pres., 601 Meridian st.; F. Campbell, R. S., 1210 Irving av.; Ruben Robins, F. S., 1221 Hampton st.

No. 52, Wilkesbarre, Pa.—W. B. Coe, President, 141 N. River street; F. P. Barber, Recording Secretary, 415 Wyoming avenue; W. Pittston, Fin. Sec., 24 E. Lewis, Financial Secretary, American Tel. and Tel. Company.

No. 53, Harrisburg, Pa.—John Meyer, Pres., Baln and Ralams sts.; Jas. Emminger, R. S., 25 N. 15th st.; C. Anderson, F. S., 46 Summit st.

No. 54, Peoria, Ill.—Meets 1st and 3rd Wednesdays at 301 Main st. H. Schaefer, Pres., 219 W. Jefferson st.; Harry Dunn, Rec. Sec., East Peoria; L. C. Crawley, Fin. Sec., 115 Washington st.

No. 55, Des Moines, Ia.—Meets first and third Tuesdays at Trades' Assembly Hall. L. M. Steadman, President, 115 E. Thirteenth street; Ed. Purcell, Recording Secretary, 1020 E. Sixth street; J. C. Dastremon, Financial Secretary, 316 E. Seventh street.

No. 56, Boston, Mass.—Meets 2nd and 4th Wednesdays at 45 Elliott st. J. J. Murphy, Pres., 363 Tremont st.; D. J. Burnett, R. S., 2 Silver st.; S. Boston; J. H. McCourcy, F. S., 79 Smith st., Roxbury.

No. 57, Salt Lake City, Utah.—Meets second and fourth Thursdays. F. Smith, Pres., care Citizens Electric Lt. Co.; J. A. Ackley, R. S., care R. M. Jones; E. Mill, F. S., 67 Main st.

No. 58, West Superior, Wis.—Meets first and third Wednesdays at rooms 3 and 4 1602 3d st. R. P. Pfleger, Pres., Superior Water, Light & Power Co.; C. C. Hehl, R. S., 405 Hughtitt ave.; H. Burdette, F. S., 1819 Banks ave.

No. 59, Paducah, Ky.—J. B. Kretts, Pres., No. 2 Engine House; W. S. Nelson, R. S., 220 S. 4th st.; W. A. Koenenman, F. S., 220 S. 4th st.

No. 60, San Antonio, Tex.—Meets every Saturday at Milham Hall, Soledad Block. W. J. Parsons, Pres., 315 N. Laredo st.; T. L. Rose, R. S., 215 Powder House st.; J. H. Mahoney, F. S., 723 Morales st.

No. 61, Los Angeles, Cal.—A. McFarlane, Pres., 215 S. Hill st.; P. E. Peters, R. S., 842 Bellevue ave.; C. P. Loft-house, F. S., 746 San Julian st.

No. 62, Kalamazoo, Mich.—A. D. Ayers, Pres.; J. A. Mackinder, Sec., 222 W. Ransome st.

No. 63, Tampa, Fla.—Theo. Glinn, President, Pt. Tampa City; W. F. Crofts, Recording Secretary, Lock Box 264; Arthur D. Henry, Financial Secretary, Box 220.

No. 64, St. Louis, Mo.—Meets every Thursday at Wenzel Hall, No. 6 n. w. cor. 8th and Franklin avs. L. Sutton, Pres., 1915 Belle Glade ave.; J. U. Frey, Fin. Sec., 3162A Easton ave.

No. 66, Houston, Tex.—Meets first Thursdays and third Sundays. J. W. Howard, Pres., 1715 Houston ave.; S. T. Sikes, R. S., 808 McKee st.; F. A. Peters, F. S., care of Texas Pub. Mess. Co.

No. 67, Quincy, Ill.—D. M. Mallinson, P., 1120 Vine st.; Edw. Haise, R. S., 701 Main st.; W. F. Wagner, F. S., 1141 Chestnut st.

No. 68, Little Rock, Ark.—C. J. Griffith, Pres., 15th and Hooker st.; T. F. Barley, R. S., 1117 W. 3rd st.; J. C. Graves, F. S., 215 W. 15th st.

No. 69, Richmond, Va.—Meets 1st & 4th Wednesdays at 613 N. Third st. (in rear). E. Vaughan, Pres., 906 N. Seventh st.; J. A. Moss, R. S., 419 W. Duval st.; S. R. Kelly, F. S., 615 N. 3rd st.

No. 70, Schenectady, N. Y.—Meets 2d and 4th Tuesdays at Trades Assembly Hall, cor. Centre and State sts., 3d floor. Wm. Birch, Pres., 1030 State st.; J. Engel, R. S., 114 Barrett st.; M. W. Powell, F. S., 435 Franklin st.

No. 71, Galveston, Tex.—Meets 2nd and 4th Wednesdays. Oliver Lorenzo, Pres., 1606 Tremont st.; D. L. Gobie, R. S., 3320 Ave. R4; L. C. Castetter, F. S., 222 Post-office st.

No. 72, Danville, Ill.—G. M. Gilton, Pres., 319 Franklin st. Jas. Merritt, Sec., care of Am. Tel. & Tel. Co.

No. 73, Spokane, Wash.—Meets 1st and 3rd Thursdays at Oliver Hall, 136 1/2 Riverside ave. R. F. Harper, Pres., 6811 Walnut st.; T. H. Denter, R. S., Box 635; W. D. Nickson, F. S., Box 635.

No. 74, Fall River, Mass.—Meets every Wednesday at cor. Main and Bedford sts. A. F. Swan, Pres., Sec. C, Granite Block; H. Sweeney, Rec. Sec., 1164 Plymouth ave.; Wm. Jellison, F. S., 108 Snell st.

No. 75, Wichita, Kas.—Ed. Smith, Pres.; Roy B. Cochran, Rec. Sec., care of Tel. Office.

No. 76, Tacoma, Wash.—A. A. Harrigan, Pres., 2504 J st.; C. A. Preston, R. S., 1311 E st.; Jas. Murray, F. S., 1555 C st.

No. 77, Detroit, Mich.—Meets every Friday evening at 133 Bates st. F. C. Soop, Pres., 350 Daggs st.; W. J. Hartwig, Rec. Sec., 291 22d st.; Archie Miller, Fin. Sec., 254 Randolph st.

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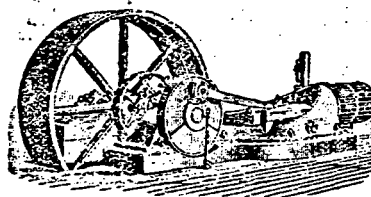
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